Wyoming Sage-Grouse Job Completion Report

2025

Nyssa Whitford
Sage-Grouse/Sagebrush Biologist
Wyoming Game and Fish Department

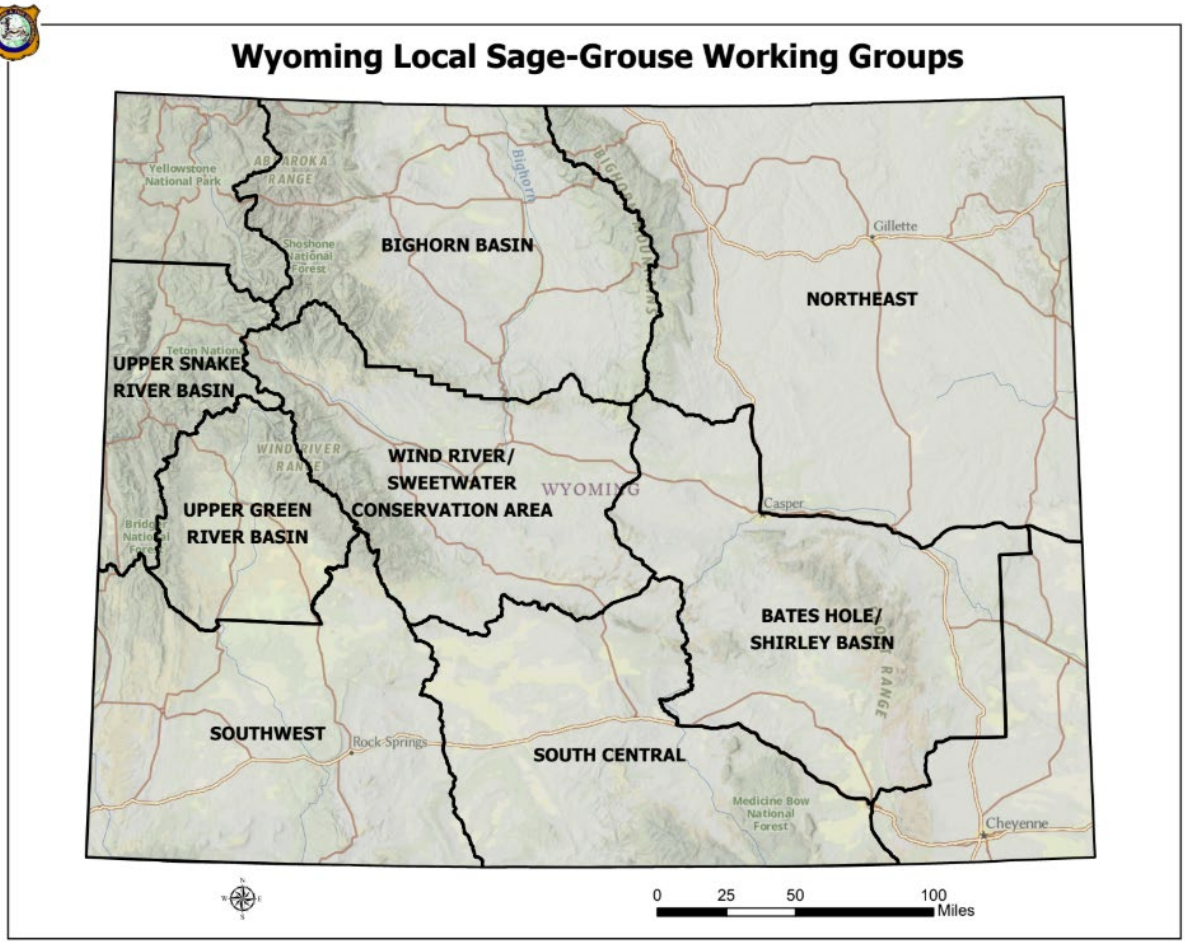
Table of Contents

Statewide

Job Completion Report

Prepared By: Nyssa Whitford, Sage-Grouse Biologist

Period Covered: 1-1-2025 to 12-31-2025



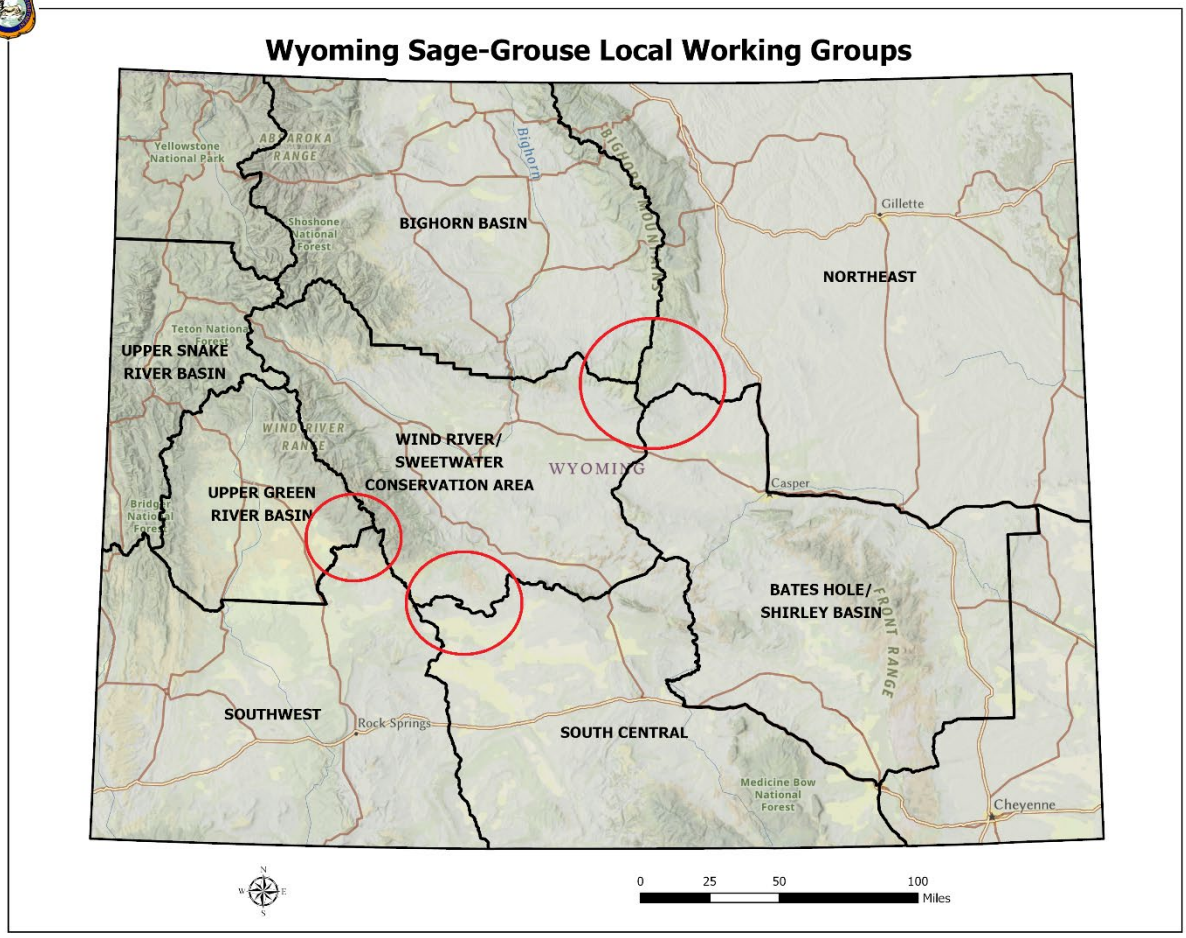


Figure 1: Sage-Grouse Local Working Groups/Management Area Boundaries Prior to August 2025. Changes in Red.

Table 1: Leks Counted

Year	Occupied	Counted	Percent Counted	Peak Males	Average Peak Males
2016	1,845	735	39.8%	23,441	40.3
2017	1,834	692	37.7%	18,764	35.3
2018	1,824	800	43.9%	17,124	28.2
2019	1,803	701	38.9%	11,892	21.8
2020	1,775	780	43.9%	12,402	21.5
2021	1,761	765	43.4%	10,296	19.0
2022	1,747	707	40.5%	9,917	20.1
2023	1,726	467	27.1%	6,718	20.7
2024	1,744	756	43.3%	17,916	30.7
2025	1,719	621	36.1%	15,662	33.6

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 2: Leks Surveyed

Year	Occupied	Surveyed	Percent Surveyed	Peak Males	Average Peak Males
2016	1,845	949	51.4%	19,888	31.3
2017	1,834	960	52.3%	17,893	28.1
2018	1,824	809	44.4%	12,407	22.8
2019	1,803	872	48.4%	9,591	18.2
2020	1,775	676	38.1%	6,741	16.5
2021	1,761	756	42.9%	6,020	14.1
2022	1,747	824	47.2%	7,052	15.5
2023	1,726	947	54.9%	11,423	21.2
2024	1,744	820	47%	11,681	24.4
2025	1,719	873	50.8%	15,461	28.7

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 3: Leks Checked

Year	Occupied	Checked	Percent Checked	Peak Males	Average Peak Males
2016	1,845	1,684	91.3%	43,329	35.6
2017	1,834	1,652	90.1%	36,657	31.4
2018	1,824	1,609	88.2%	29,531	25.6
2019	1,803	1,573	87.2%	21,483	20.0
2020	1,775	1,456	82%	19,143	19.5
2021	1,761	1,521	86.4%	16,316	16.8
2022	1,747	1,531	87.6%	16,969	17.9
2023	1,726	1,414	81.9%	18,141	21.0
2024	1,744	1,576	90.4%	29,597	27.9
2025	1,719	1,494	86.9%	31,123	31.0

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 4: Lek Status of Leks Checked

Year	Active	Inactive	Unknown	Known Status	% Active	% Inactive
2016	1,262	275	147	1,537	82.1%	17.9%
2017	1,207	304	141	1,511	79.9%	20.1%
2018	1,180	300	129	1,480	79.7%	20.3%
2019	1,138	298	137	1,436	79.2%	20.8%
2020	1,028	337	91	1,365	75.3%	24.7%
2021	1,026	321	174	1,347	76.2%	23.8%
2022	1,012	327	192	1,339	75.6%	24.4%
2023	933	246	235	1,179	79.1%	20.9%
2024	1,124	286	166	1,410	79.7%	20.3%
2025	1,056	264	174	1,320	80%	20%

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Inactive - Confirmed no birds/sign present (see official definitions)

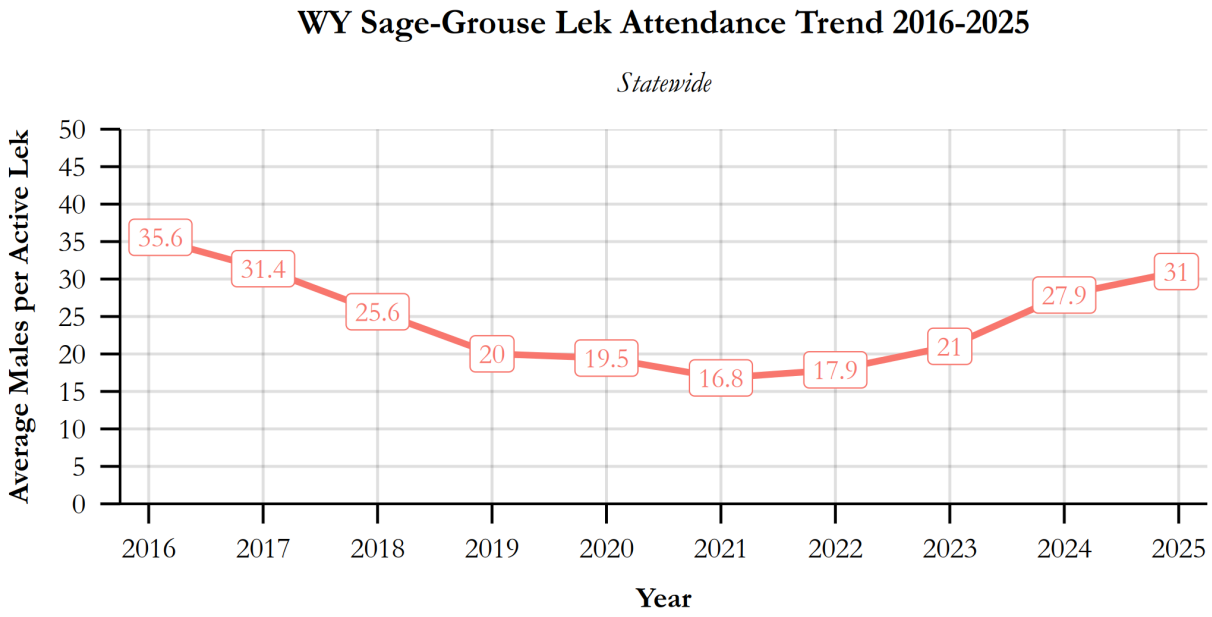


Figure 2: Average Peak Males

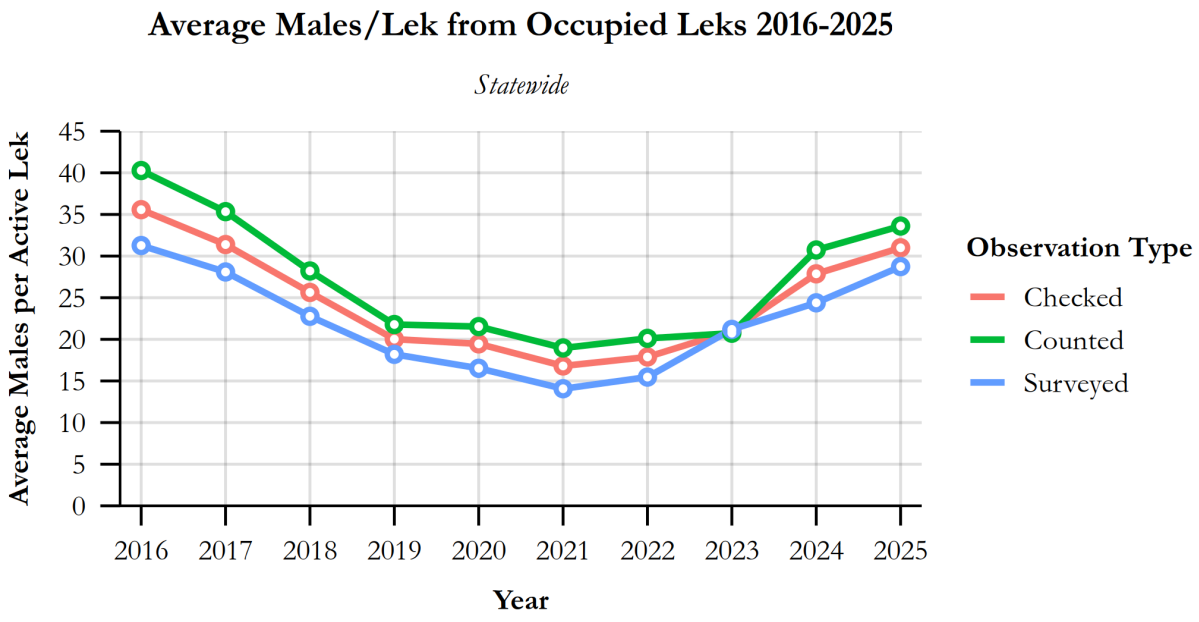


Figure 3: Average Peak Males

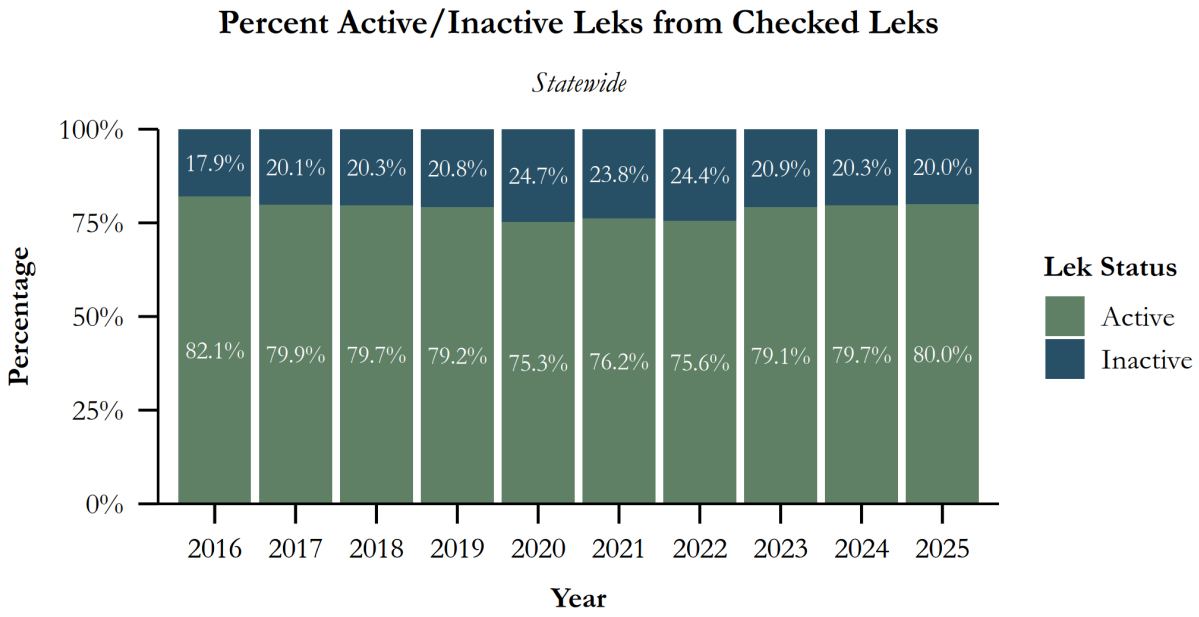


Figure 4: Lek Status

Table 5: Hunting Seasons

Year	Season Start	Season End	Length	Bag/Possession Limit
2016-1	Sep-17	Sep-30	14	2/4
2016-4	Sep-17	Sep-19	3	2/4
2017-1	Sep-16	Sep-30	15	2/4
2017-4	Sep-16	Sep-18	3	2/4
2018-1	Sep-15	Sep-30	16	2/4
2018-4	Sep-15	Sep-17	3	2/4
2019-1	Sep-21	Sep-30	10	2/4
2019-4	Sep-21	Sep-23	3	2/4
2020-1	Sep-19	Sep-30	12	2/4
2020-4	Sep-19	Sep-21	3	2/4
2021-1	Sep-18	Sep-30	13	2/4
2021-4	Sep-18	Sep-20	3	2/4
2022-1	Sep-17	Sep-30	14	2/4
2022-4	Sep-17	Sep-19	3	2/4
2023-1	Sep-16	Sep-30	15	2/4
2024-1	Sep-21	Sep-30	10	2/4
2025-1	Sep-20	Sep-30	11	2/4
2025-4	Sep-20	Sep-30	11	2/4

Table 6: Harvest Totals

Year	Harvest	Hunters	Days	Birds/Day	Birds/Hunter	Days/Hunter
2016	10,526	4,674	11,476	0.9	2.3	2.5
2017	7,817	3,576	8,646	0.9	2.2	2.4
2018	10,422	5,035	13,092	0.8	2.1	2.6
2019	7,615	4,229	9,473	0.8	1.8	2.2
2020	6,544	3,227	9,705	0.7	2.0	3.0
2021	8,457	5,107	14,465	0.6	1.7	2.8
2022	11,640	6,361	16,467	0.7	1.8	2.6
2023	12,323	5,598	14,587	0.8	2.2	2.6
2024	8,198	4,398	9,761	0.8	1.9	2.2
2025	6,817	4,371	9,618	0.7	1.6	2.2
Average	**9,036**	**4,658**	**11,729**	**0.8**	**2.0**	**2.5**

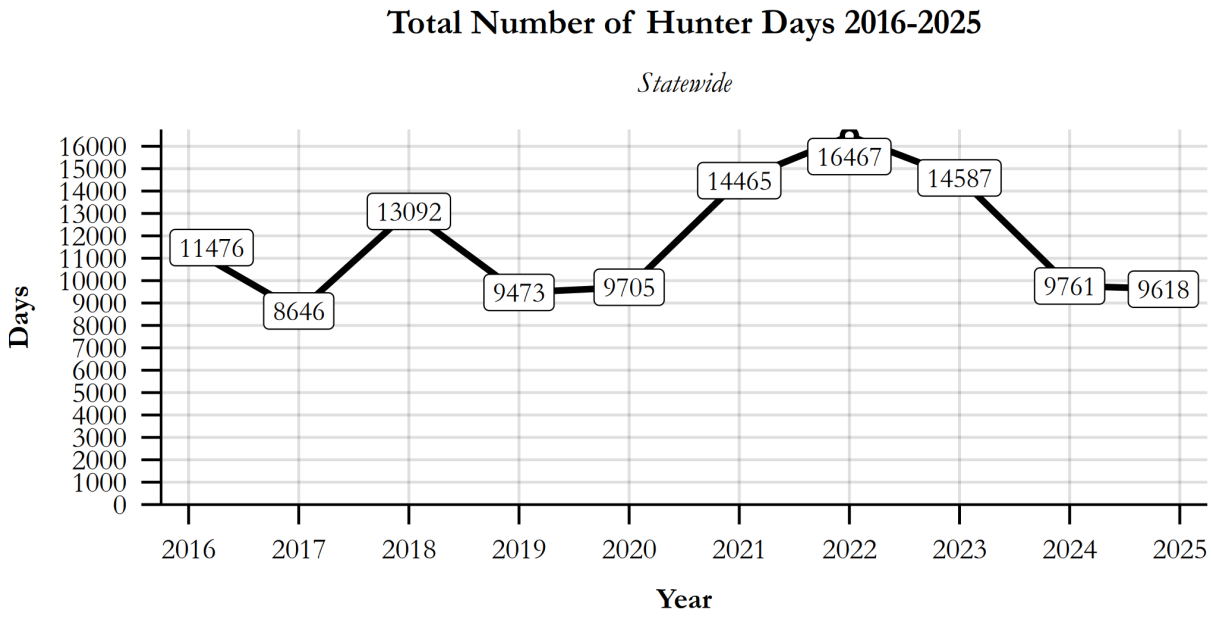


Figure 5: Harvest Days

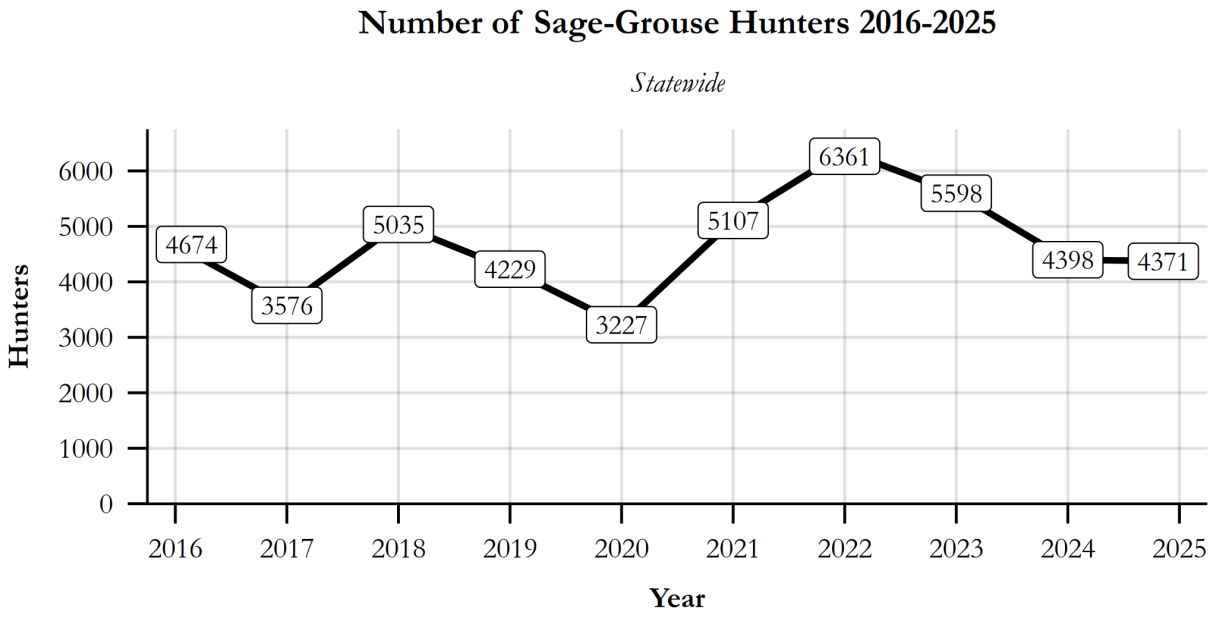


Figure 6: Hunters

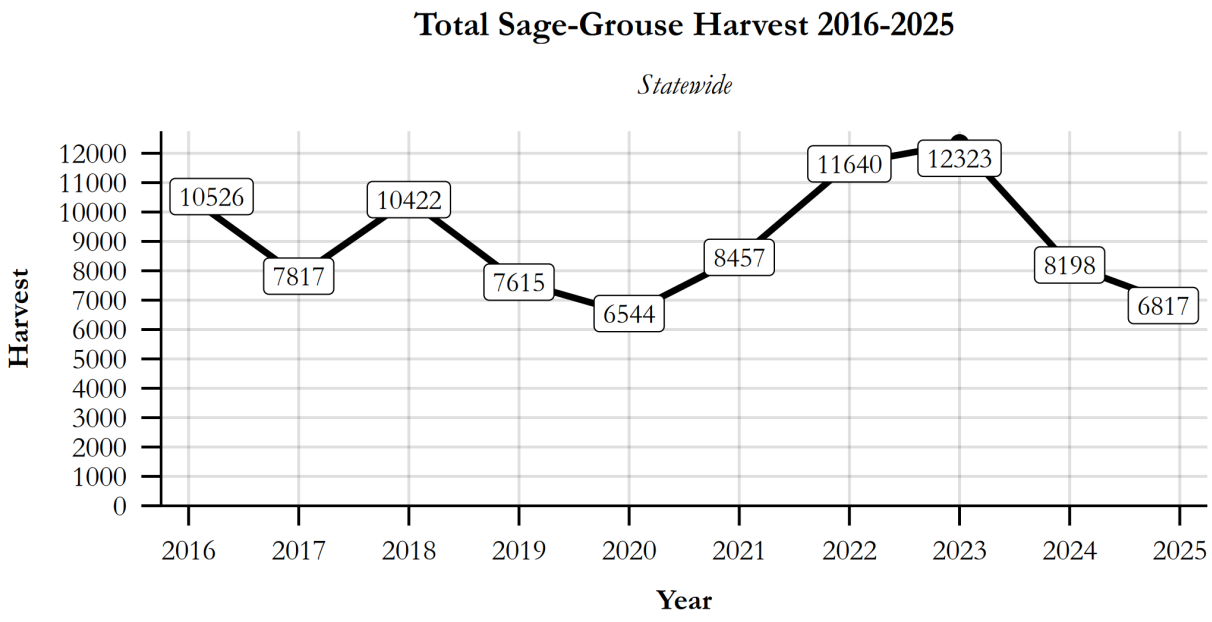


Figure 7: Total Harvest

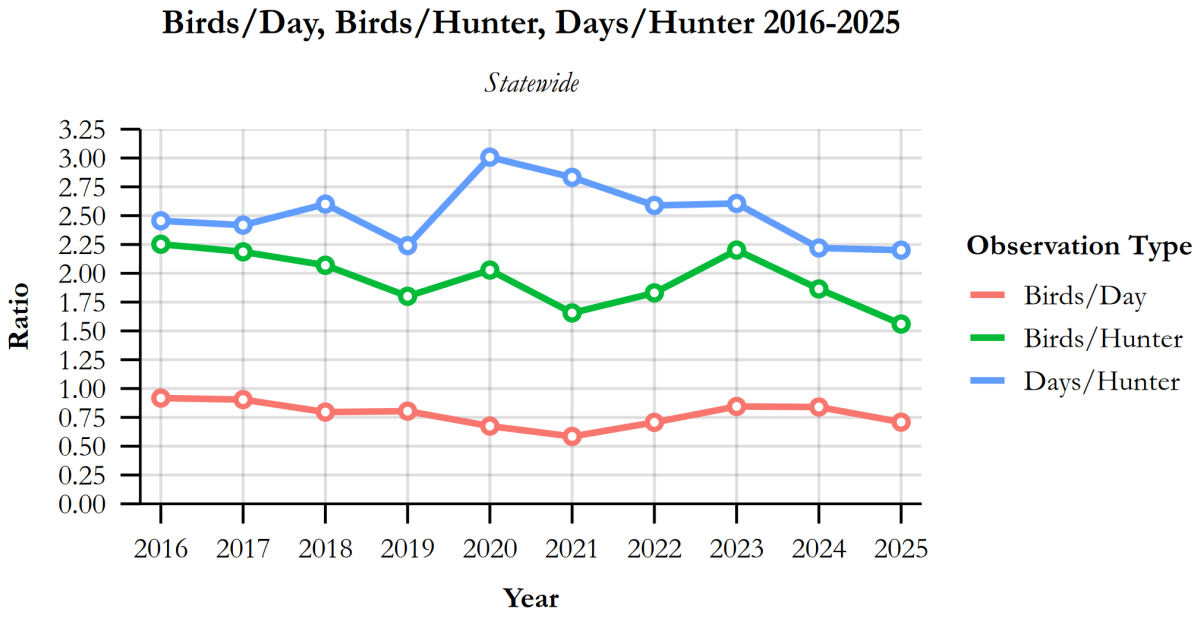


Figure 8: Harvest Ratios

Table 7: Harvest Composition

		Percent Adult		Percent Yearling		Percent Chick		
Year	Sample Size	Male	Female	Male	Female	Male	Female	Chicks/Hens
2016	2,097	16.9%	33%	4.5%	7.6%	16.7%	21.2%	0.9
2017	2,047	13.8%	31.7%	3.3%	6%	20.7%	24.6%	1.2
2018	2,112	14.2%	32.4%	6.2%	11.3%	13.9%	22%	0.8
2019	1,631	10.4%	31.5%	3.2%	9.7%	14.9%	30.3%	1.1
2020	2,171	9.8%	31.5%	4.1%	9.1%	17.4%	28.1%	1.1
2021	1,542	10.2%	39.8%	2.8%	8%	16%	23%	0.8
2022	1,829	8.3%	29.5%	2.6%	7.9%	22.2%	29.5%	1.4
2023	2,753	7.7%	22%	4.8%	8.8%	23.5%	33.1%	1.8
2024	2,775	13.6%	23%	6.8%	11.1%	20.9%	24.6%	1.3
2025	2,325	18.5%	31.7%	5.9%	9.9%	14.7%	19.3%	0.8

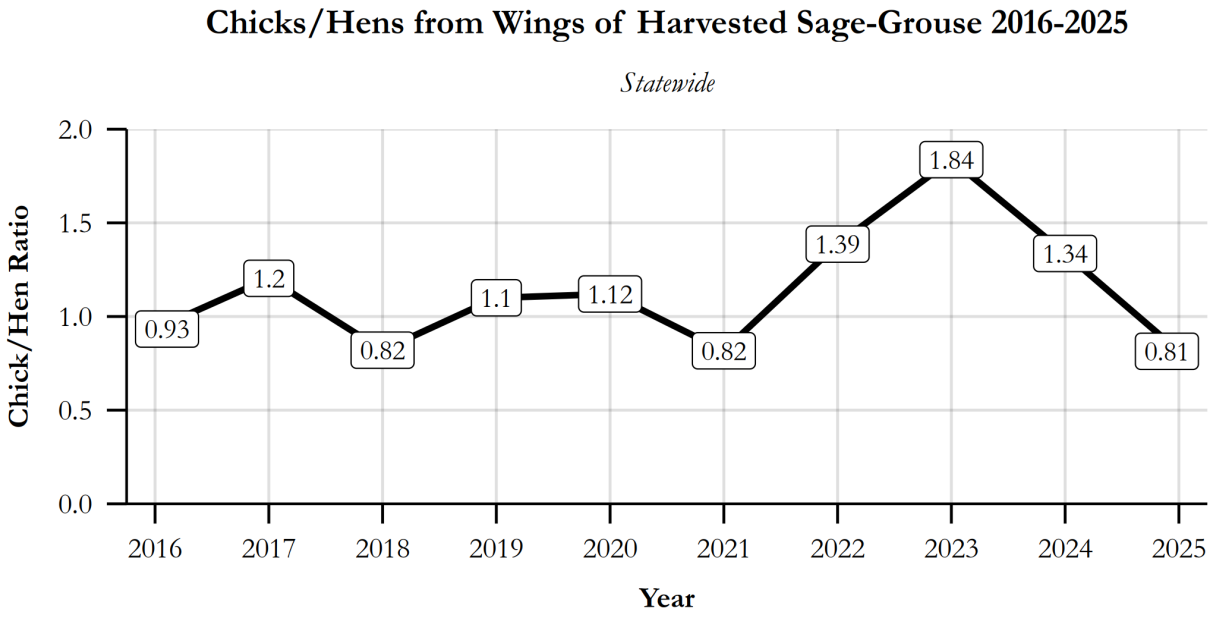


Figure 9: Chick/Hen Ratio

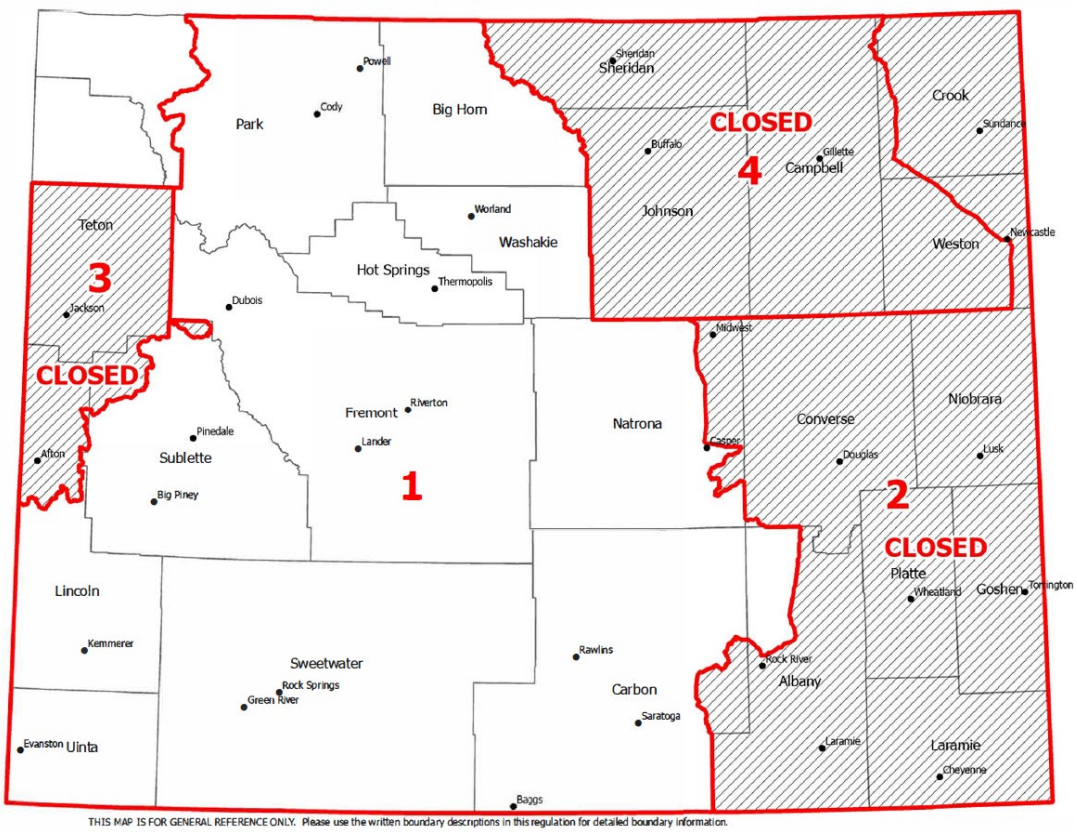


Figure 10: 2025 Sage-Grouse Hunt Areas

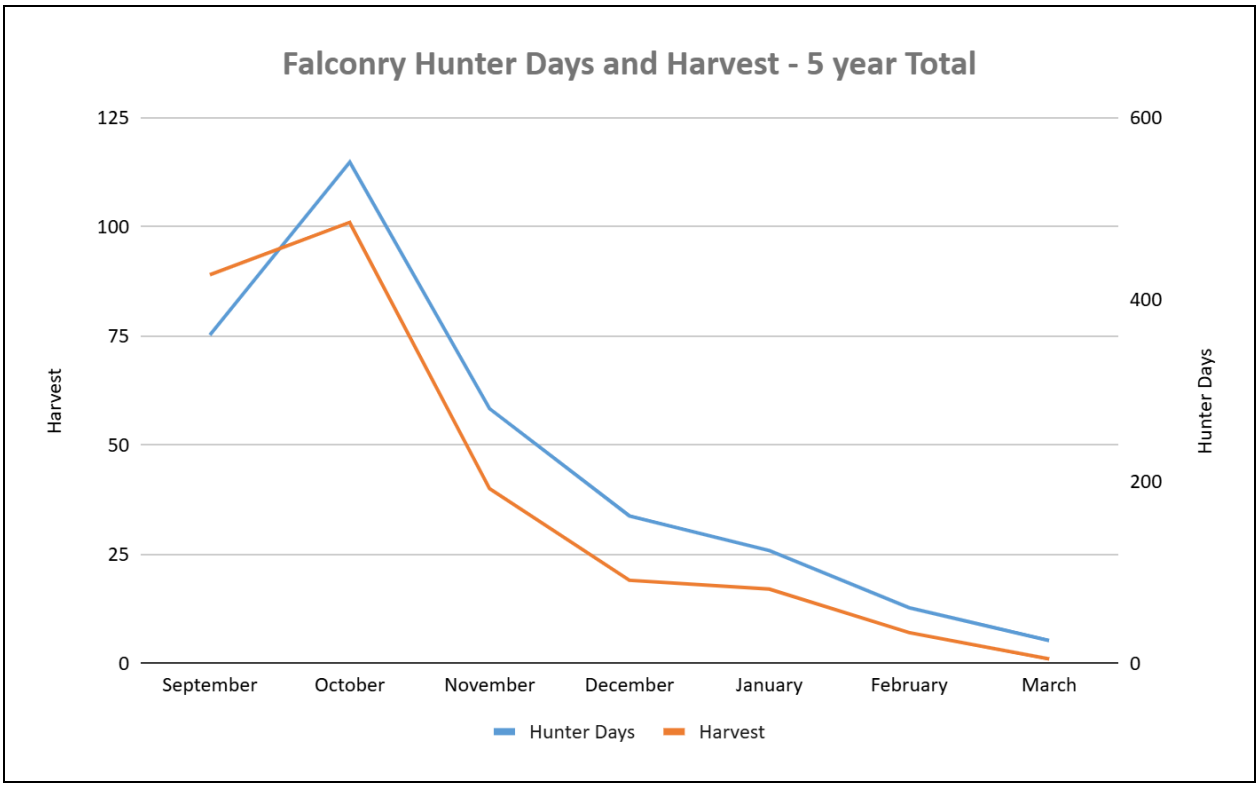


Figure 11: Falconry Hunter Days and Harvest, 5-year (2020-2024) Total

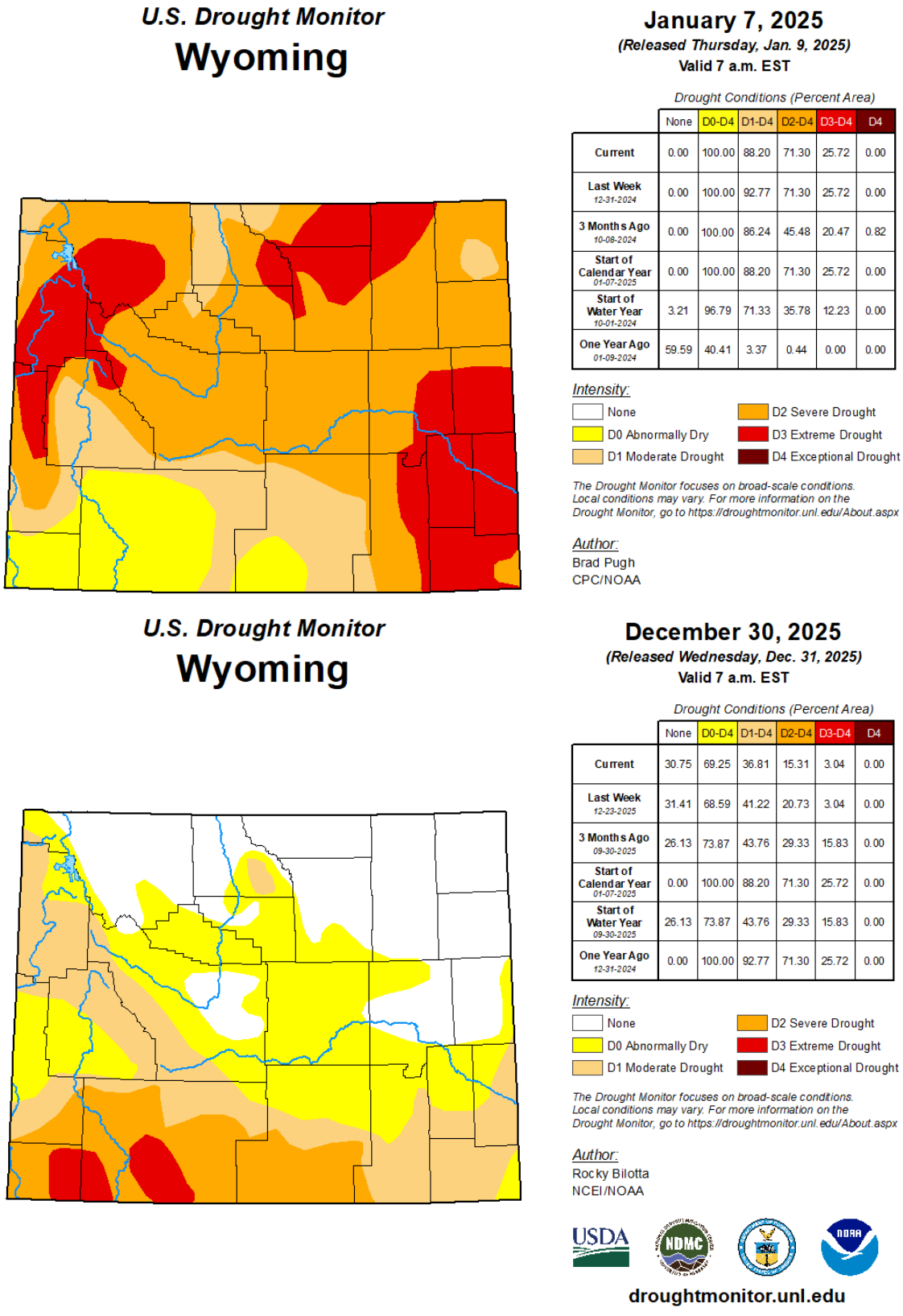


Figure 12: January 7, 2025 vs December 30, 2025 Drought Monitor Maps (National Drought Mitigation Center)

Period Covered:

Wyoming Game and Fish Department (WGFD) Job Completion Reports (JCRs) have historically covered the biological year which runs from June till May the following year. This biological year would start with brood surveys, if conducted, roll into hunting and harvest, and end with spring lek monitoring. While this format highlighted chick survival to fall and then recruitment from the past year into lek attendance, it delayed reporting and caused confusion for some. With improvements in data management and reporting, the Department has transitioned to a calendar year JCR covering January till December. The JCR will start with lek monitoring results and end with harvest information. This, the 2025 JCR, is the first calendar year JCR.

Boundary Changes:

In 2025, minimal updates were made to the Wyoming greater sage-grouse (Centrocercus urophasianus; hereafter, sage-grouse) management areas to ensure each area is easily describable (Figure 1). These areas also serve as the Sage-Grouse Local Working Group (LWG) boundaries. As several LWG boundaries did not previously align with features such as roads, drainages, or county lines, small boundary changes were proposed. These new lines follow existing elk and antelope hunt area boundaries, which utilize roads, rivers, or the Continental Divide. These changes were vetted both internally and externally with all affected LWGs and became effective in August 2025. Please refer to the front cover of this report for the current, describable boundaries. Note that no leks changed management or LWG areas because of these minor updates.

Lek Monitoring:

The Bureau of Land Management (BLM) did not assist with lek monitoring in 2025. The impact of losing this partner was unevenly distributed. Areas near WGFD regional offices were less affected than those with remote staff who relied heavily on nearby BLM field offices. Despite this change, the Department remains committed to its goal of monitoring 90% of all occupied leks annually. To maintain this level of monitoring several measures have been implemented. 1) WGFD transitioned to the less rigorous survey protocols instead of more time-intensive counts where applicable. 2) An analysis of peak male attendance was conducted to identify the optimal weeks for lek visits when only 1–2 mornings are available. 3) Past lek observation data was used to quantify the effect of moon phases on lek attendance, providing field personnel with better insights for scheduling. 4) More aerial lek surveys were conducted by regional personnel. For 2026, additional Department personnel and an increased volunteer effort are also being explored. Due to the loss of the BLM as a lek monitoring partner in 2025, 51% of leks were surveyed and 36% were counted, (**Tables 1-2**). By comparison, in 2024, 47% of leks were surveyed and 43% were counted (**Tables 1-2**). Overall, slightly fewer leks were checked in 2025 (87%) than in 2024 (90%) **(Table 3**).

Approximately 37% of the range-wide sage-grouse population lives in Wyoming and 90% of estimated historic habitat in Wyoming is still occupied. There are just over 1,700 known, occupied sage-grouse leks in Wyoming. Department personnel and sage-grouse stakeholders monitored 87% of these leks in the spring of 2025 (**Table 3**). Results indicate 1,056 leks were confirmed active, 264 confirmed inactive, and 174 were unknown or unchecked. The average number of peak males observed was 31 per active lek, a 11% increase from the 28 males per active lek observed in the spring of 2024, suggesting an overall population increase (**Table 3**). In 2025, 31,123 male sage-grouse were observed on leks compared to 29,597 males observed on leks in 2024 (**Table 3**). Methods for collecting sage-grouse data are described in the sage-grouse chapter of the WGFD

Handbook of Biological Techniques (Whitford and Bish 2022), which is largely based on Connelly et al. 2003.

Lek monitoring data for the 2025 breeding season are summarized in **Tables 1-4** and **Figure 2-4**. For the 10-year period (2016-2025), average male lek attendance ranged from 16.8 males per active lek in 2021, the lowest average males per lek since 2013, to a high of 35.6 males per lek in 2016 (**Table 3**). The proportion of active, occupied leks stayed steady with 79.7% in 2024 and 80% in 2025 (**Table 4**). Comparing 2016, the last peak, with 2025, possibly a population peak, the average number of males per active leks decreased 13% over this 10-year period. Sage-grouse populations are cyclical with a range-wide peak on average every 9.2 years (Prochazka et al. 2023). Different areas in Wyoming cycle at different rates with eastern Wyoming having a shorter cycle, around 6-7 years and western Wyoming every 9-10 years (Prochazka et al. 2023). A shorter cycle, with lower peak populations, indicates a long term, decreasing population (Coates et al. 2021). Based on previous trends, Wyoming is likely at, or near, a population peak. Short-term trends in statewide populations are believed to be largely weather related. In the late 1990s, 2004-05, 2014-15, and again in 2022-2023 timely precipitation resulted in improved habitat conditions allowing greater numbers of sage-grouse to successfully reproduce. Drought conditions throughout this decade are believed to have caused lower grouse survival leading to population declines. The current lessening of drought conditions could be influencing a slight increase in population trends over the last couple years. While these trends are valid at the statewide scale, trends can be more varied at the local level. Sub-populations more heavily influenced by anthropogenic impacts (residential development, intensive energy development, large-scale conversion of habitat from sagebrush to grassland or agriculture, interstate highways, etc.) have experienced declining populations or localized extirpation.

It is important to note that not all leks were checked from year to year over the last 10 years. However, leks that were checked consistently over the same period demonstrated the same trends except in some local areas as described in the Regional JCRs. Small changes in the statistics reported between annual JCRs are due to revisions and/or the submission of data not previously available for entry into the database (late submission of data, discovery of historical data from outside sources, etc.). These changes have not been significant on a statewide scale and interpretation of these data has not changed.

While a statistically valid method for estimating population size for sage-grouse has not yet been applied in Wyoming, monitoring male attendance on leks provides a reasonable index of relative change in abundance in response to prevailing environmental conditions over time. However, lek data must be interpreted with caution for several reasons: 1) the observation effort and the number of leks visited has varied over time; 2) not all leks have been located; 3) sage-grouse populations cycle; 4) the effects of yet to be located or unmonitored leks that have become inactive cannot be quantified or qualified; and 5) lek locations may change over time. Both the number of leks and the number of males attending these leks must be quantified to estimate population size.

Harvest:

The 2025 hunting season (**Figures 5-9** and **Tables 5-7)** for most of the state (Area 1) was one day longer than 2024 due to the calendar effect of opening the season on the third Saturday of September.

Hunting seasons and harvest in Wyoming are shown in **Tables 5-7.** Due to concerns over low populations, the statewide hunting season was shortened and the daily bag limit decreased to two sage-grouse in 2002 and has remained very conservative since that time. Two hunt areas, eastern

Wyoming (Hunt Area 2) and the Snake River Drainage in northwest Wyoming (Hunt Area 3), are closed to sage-grouse hunting (**Figure 10**). The data presented in **Tables 6** and **7** and **Figures 5-9** are estimated from a voluntary hunter survey. Generally, during the past 10 years, overall harvest appeared to be correlated to both hunter numbers, sage-grouse abundance, and favorable weather conditions. For the 2025 season, lower harvest is likely connected to drier summer conditions and lower chick numbers observed through incidental observations.

In 2023, northeastern Wyoming (Hunt Area 4) was closed to all sage-grouse hunting. When making this recommendation, the Department considered long-term localized population trends, habitat conditions, genetic connectivity between states, and possible effects of West Nile virus.

Starting in 2024, hunting sage-grouse required a free, annual permit in addition to a hunting license. This permit allows the Department to send a harvest survey specifically to sage-grouse hunters shortly after the sage-grouse hunting season closes each fall. This survey provides accurate and timely information on sage-grouse harvest that will aid the management of this species. The 2024 implementation of the permit was successful with near 100% hunter compliance during the hunting season and an almost 50% response rate to emailed harvest surveys. Similar results were reported in 2025 and the implementation of this permit is considered a success. For more information, please see the **2025 Sage-Grouse Harvest Survey**.

Starting in 2025, the falconry sage-grouse season was shortened to better align with hunter utilization, sage-grouse lek use, and to limit winter disturbance on sage-grouse and other wildlife populations. **Figure 11** compares falconry hunter days and hunter harvest through the season over a five-year period. Hunter utilization drops off dramatically after the month of January and 2023 and 2024 saw no hunters and no harvest in March and seven days hunted and no harvest in February (**Figure 11**). Falconry harvest surveys are mandatory for hunters harvesting a sage-grouse. The falconry season now opens September 1 and closes January 31. Prior to 2025, the falconry season opened on September 1 and closed March 1. There were no changes to the daily bag limit of one or the possession limit of two sage-grouse.

Production:

Hunters voluntarily submit sage-grouse wings at wing barrels across half of the state. Wings are aged and sexed by molt patterns, and numbers of chicks per hen are calculated and used as an index of productivity. While there are biases associated with the hunter selectivity of different age and sex groups of sage-grouse, trends still provide yearly comparisons of relative chick production. The 2025 wing data indicate a chick: hen ratio of 0.81 chicks per hen (**Table 7** and **Figure 9**). This level of productivity is typically associated with a decreasing population which matches the overall sage-grouse population cycle and 2025 likely being a population peak. The 2025 lek data (all leks checked) indicated an 11% increase in the average numbers of males on leks (**Table 3**). While Wyoming might be near, or at, the top, of the latest population cycle, 2026 lek monitoring trends will confirm this information as wing data only sets expectations for the coming spring leks trends and does not provide an absolute index. Considering the opportunistic sampling of hunter-harvested wings and that wings are not collected statewide, due to shorter seasons or closed hunt areas, this inconsistency is not unexpected. When 1999-2024 data are pooled, average male lek attendance declined an average of 9% when chick: hen ratios the previous fall were less than 1.4:1, was mostly unchanged when chick: hen ratios the previous fall were 1.4 to 1.7:1 and average male lek attendance increased an average of 37% when chick: hen ratios were 1.8:1 or higher. Additional data are required to strengthen the statistical basis of these analyses.

Habitat:

As of January 2025, approximately 80% of Wyoming was experiencing moderate to extreme drought conditions (**Figure 12**). As of December 2025, conditions had improved with approximately 40% of Wyoming experiencing moderate to extreme drought conditions (**Figure 12)**. For the reporting time frame considered, conditions improved across the state with only southwestern Wyoming experiencing extreme drought. As of this report, the 2025/2026 winter is still ongoing but has experienced below-average precipitation to date. Its effects on forage and insect production for the coming spring/summer remain to be seen. In general, spring precipitation is positively linked to summer chick survival, and autumn chick: hen ratios, which are in turn, linked to the next year's lek observations of males. However, periods of prolonged cold, wet weather may have adverse effects on hatching success, chick survival, and plant and insect phenology and production. Efforts to quantify and qualify these effects in a predictable fashion over meaningful scales have largely failed.

While we believe that most of the currently occupied leks in Wyoming have been documented, other seasonal habitats such as nesting, early brood-rearing, and winter concentration areas have not been identified in parts of the state. Efforts to map seasonal ranges for sage-grouse will continue by utilizing winter observation flights and the on-going land cover mapping efforts of the USGS (Fedy et al. 2014), BLM, WGFD, the Wyoming Geographic Information Science Center (WYGISC) of the University of Wyoming, and others.

Disease:

A highly pathogenic form of avian influenza (HPAI) was again documented in large portions of the sage-grouse range in Wyoming. Although no sage-grouse in Wyoming were documented having contracted this disease, several infections in other avian species were lab-verified across the state. It is unknown how this disease may affect sage-grouse, but it is of concern and should continue to be closely monitored as this strain of HPAI continues to surface.

While West Nile virus (WNv) was documented in Wyoming during this biological year, no sage-grouse mortality events were documented. The last major documented mortality event was in 2003 when West Nile virus was first documented in sage-grouse in northeast Wyoming. Due to the difficulty in monitoring WNv in sage-grouse, human and livestock cases can provide an indication of WNv prevalence each year (Wyoming State Vet Lab, https://www.uwyo.edu/wyovet/index.html).

Conservation Planning:

For the 2026 fiscal year, July 1st 2025-June 30th 2026, the Wyoming Game and Fish Commission allocated $295,000 to fund Sage-Grouse Local Working Group projects. The LWGs in turn allocate those funds from February 1st 2025 through January 31st 2026 to offset the workload for our fiscal division. During this reporting period, 13 projects were funded. Most of the projects are supported by multiple cost-sharing partners (Attachment A). Cumulatively, 377 projects have been approved since the LWGs inception in 2005. Projects include habitat treatments and restoration, improved range management infrastructure and grazing management plans, applied research, inventories, monitoring, and public outreach.

In November of 2023, the Department implemented a new data sharing policy in response to new interpretation of W.S. 16-4-203(b)(viii). This data sharing policy better aligns with our obligation to protect sensitive wildlife location data. Wildlife data on public lands may be considered sensitive and all private land wildlife data are considered sensitive as the location data identifies land ownership.

The Department has developed safeguards to prevent the unauthorized release or publication of this data. A formal agreement in the form of either a memorandum of understanding (MOU) or a transfer of material agreement (TMA) shall be in place prior to release of this data. The Department is still working through specifics of implementing this policy and is examining our sage-grouse data management, distribution, and display of data to ensure compliance.

In December 2025, the Bureau of Land Management (BLM) finalized their range-wide Resource Management Plan (RMP) for sage-grouse. In this Record of Decision (ROD), the BLM updated their priority habitat, or core areas. As of December 2025, the state of Wyoming is working through this ROD and Governor Gordon has directed the Sage-Grouse Implementation Team to begin updates to the **2019-3 Sage-Grouse Executive Order** to try and foster cohesive management between state and federal agencies. Executive order updates are expected to be completed in 2026, although Wyoming will continue to use Version 4 of the core areas in the interim.

Management Recommendations:

1. Assist in updating Wyoming Governor's Sage-Grouse Executive Order and Core Area Strategy.
2. Implement Wyoming Governor's Sage-Grouse Executive Order and Core Area Strategy.
3. Continue to refine and enhance the sage-grouse database and Job Completion Report intranet program.
4. Continue to map lek perimeters and integrate these data into the WGFD lek database. Priority for this effort should be based on the lek size of lek and impending development actions that may impact leks.
5. Personnel monitoring leks should review and consistently follow established lek monitoring protocol each year.

Report Notice:

Variation in this report from previous years' reports is expected because of new data added to the lek database. Old records are added each year as data become available and newly discovered leks are added to the database. New lek count routes may also be added. Data adjustments should be taken into consideration when the current report and tables are compared to previous editions.

Literature Cited:

Coates, P.S., Prochazka, B.G., Aldridge, C.L., O'Donnell, M.S., Edmunds, D.R., Monroe, A.P., Hanser, S.E., Wiechman, L.A., and Chenaille, M.P., 2022, Range-wide population trend analysis for greater sage-grouse (Centrocercus urophasianus)—Updated 1960–2021: Data Report 1165, 16 p., https://doi.org/10.3133/dr1165.

Connelly, J.W., K.P. Reese and M.A. Schroeder. 2003. Monitoring of greater sage-grouse habitats and populations. Station Bulletin 80. University of Idaho College of Natural Resources Experiment State. Moscow, ID.

Fedy, B.C., K.E. Doherty, C.L. Aldridge, M.S. O'Donnell, J.L. Beck, B. Bedrosian, D. Gummer, M.J. Holloran, G.D. Johnson, N.W. Kaczor, C.P. Kirol, C.A. Mandich, D. Marshall, G. McKee, C. Olson, A.C. Pratt, C.C. Swanson, B.L. Walker. 2014. Habitat prioritization across large landscapes,

multiple seasons, and novel areas: an example using greater sage-grouse in Wyoming. Wildlife Monographs 190:1–39.

National Drought Mitigation Center. 2025. U.S. Drought Monitor Map Archive. https://droughtmonitor.unl.edu/Maps/MapArchive.aspx

Prochazka, B.G., Coates, P.S., Aldridge, C.L., O'Donnell, M.S., Edmunds, D.R., Monroe, A.P., Hanser, S.E., Wiechman, L.A., and Chenaille, M.P., 2024, Range-wide population trend analysis for greater sage-grouse (Centrocercus urophasianus)—Updated 1960–2023: U.S. Geological Survey Data Report 1190, 18 p., **https://doi.org/10.3133/dr1190**.

Whitford, N. W. Bish. 2022. Chapter 12: Sage-Grouse (Centrocercus urophasianus). Pages 12-1 to 12-43 in Handbook of Biological Techniques: third edition. Wyoming Game and Fish Department. Cheyenne, WY.

Bates Hole

Job Completion Report

Prepared By: Willow Bish, Casper Region Terrestrial Habitat Biologist

Period Covered: 1-1-2025 to 12-31-2025

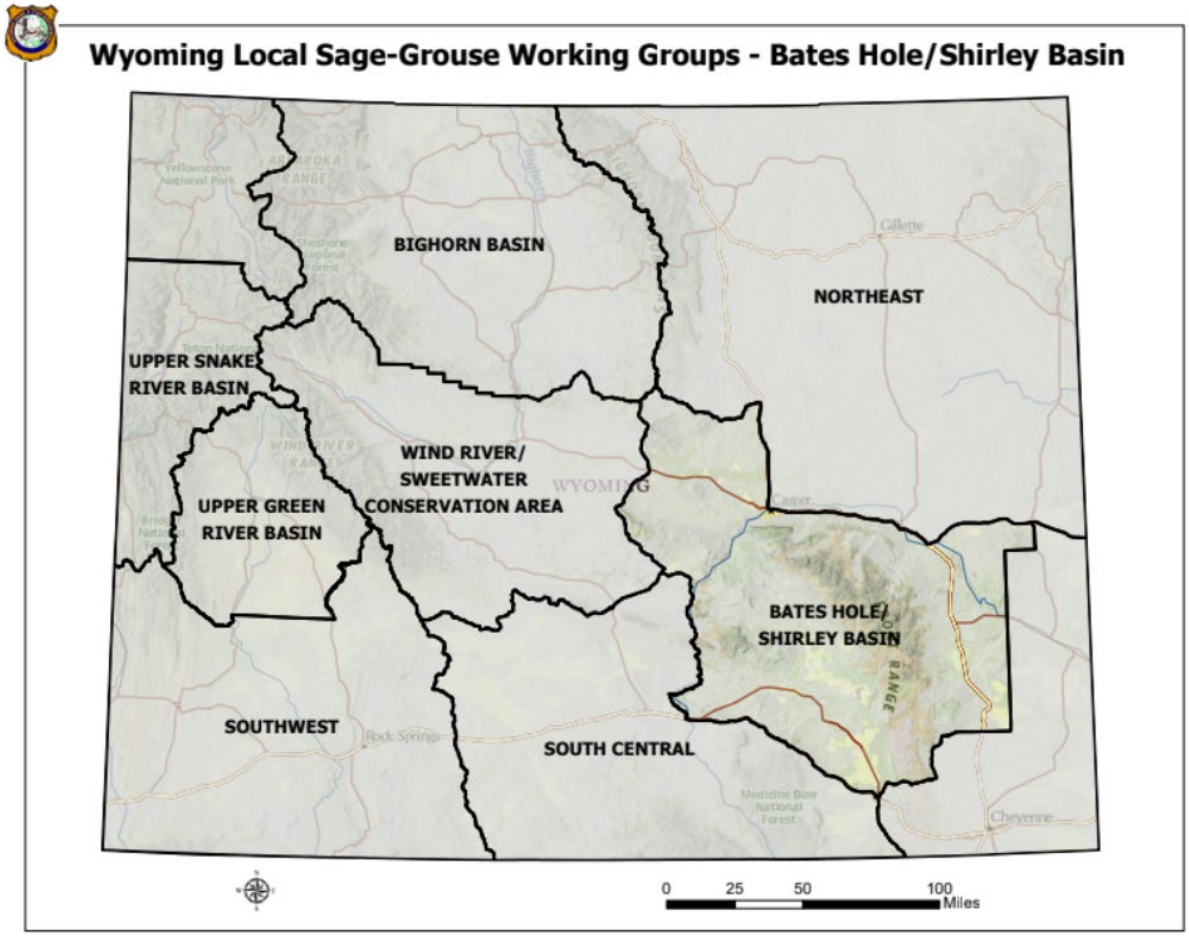


Table 1: Sage-Grouse Lek Characteristics

	Group	N	Percent
BLM Office			
	Casper	134	40.6%
	Lander	2	0.6%
	Newcastle	1	0.3%
	Rawlins	193	58.5%
Biologist			
	Casper	120	36.4%
	Douglas	13	3.9%
	Laramie	113	34.2%
	Saratoga	75	22.7%
	Sinclair	2	0.6%
	Wheatland	7	2.1%
Classification			
	Occupied	202	60.9%
	Undetermined	28	8.5%
	Unoccupied	101	30.6%
County			
	Albany	81	24.5%
	Carbon	110	33.3%
	Converse	14	4.2%
	Laramie	2	0.6%
	Natrona	116	35.2%
	Niobrara	1	0.3%
	Platte	6	1.8%

	Group	N	Percent
Land Status			
	BLM	109	33%
	BOR	1	0.3%
	Private	191	57.9%
	State	29	8.8%
Lek Status			
	Active	147	44.5%
	Inactive	127	38.5%
	Unknown	56	17%
Management Area			
	F	330	100%
Region			
	Casper	133	40.3%
	Lander	2	0.6%
	Laramie	195	59.1%
Warden			
	Douglas	3	0.9%
	East Casper	38	11.5%
	East Rawlins	2	0.6%
	Elk Mountain	70	21.2%
	Glenrock	11	3.3%
	Lusk	1	0.3%
	Medicine Bow	76	23%
	North Laramie	41	12.4%
	West Casper	80	24.2%
	West Cheyenne	2	0.6%
	Wheatland	6	1.8%

Table 2: Leks Counted

Year	Occupied	Counted	Percent Counted	Peak Males	Average Peak Males
2016	223	86	38.6%	2,893	40.2
2017	224	79	35.3%	2,213	35.7
2018	220	109	49.5%	1,944	24.0
2019	218	89	40.8%	1,474	21.1
2020	214	116	54.2%	1,513	18.2
2021	214	107	50%	1,274	16.3
2022	211	108	51.2%	1,524	19.8
2023	208	60	28.8%	997	23.2
2024	210	106	50.5%	2,042	25.5
2025	202	42	20.8%	1,041	35.9

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 3: Leks Surveyed

Year	Occupied	Surveyed	Percent Surveyed	Peak Males	Average Peak Males
2016	223	103	46.2%	2,298	31.9
2017	224	124	55.4%	2,143	29.0
2018	220	81	36.8%	1,115	20.3
2019	218	100	45.9%	1,071	20.2
2020	214	58	27.1%	648	18.5
2021	214	75	35%	662	16.1
2022	211	83	39.3%	737	18.9
2023	208	131	63%	1,862	24.2
2024	210	89	42.4%	1,509	27.9
2025	202	145	71.8%	2,967	29.1

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 4: Leks Checked

Year	Occupied	Checked	Percent Checked	Peak Males	Average Peak Males
2016	223	189	84.8%	5,191	36.0
2017	224	203	90.6%	4,356	32.0
2018	220	190	86.4%	3,059	22.5
2019	218	189	86.7%	2,545	20.7
2020	214	174	81.3%	2,161	18.3
2021	214	182	85%	1,936	16.3
2022	211	191	90.5%	2,261	19.5
2023	208	191	91.8%	2,859	23.8
2024	210	195	92.9%	3,551	26.5
2025	202	187	92.6%	4,008	30.6

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 5: Lek Status of Leks Checked

Year	Active	Inactive	Unknown	Known Status	% Active	% Inactive
2016	146	22	21	168	86.9%	13.1%
2017	148	45	10	193	76.7%	23.3%
2018	139	43	8	182	76.4%	23.6%
2019	134	37	18	171	78.4%	21.6%
2020	125	38	11	163	76.7%	23.3%
2021	124	36	22	160	77.5%	22.5%
2022	129	38	24	167	77.2%	22.8%
2023	125	23	43	148	84.5%	15.5%
2024	139	48	8	187	74.3%	25.7%
2025	140	28	19	168	83.3%	16.7%

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Inactive - Confirmed no birds/sign present (see official definitions)

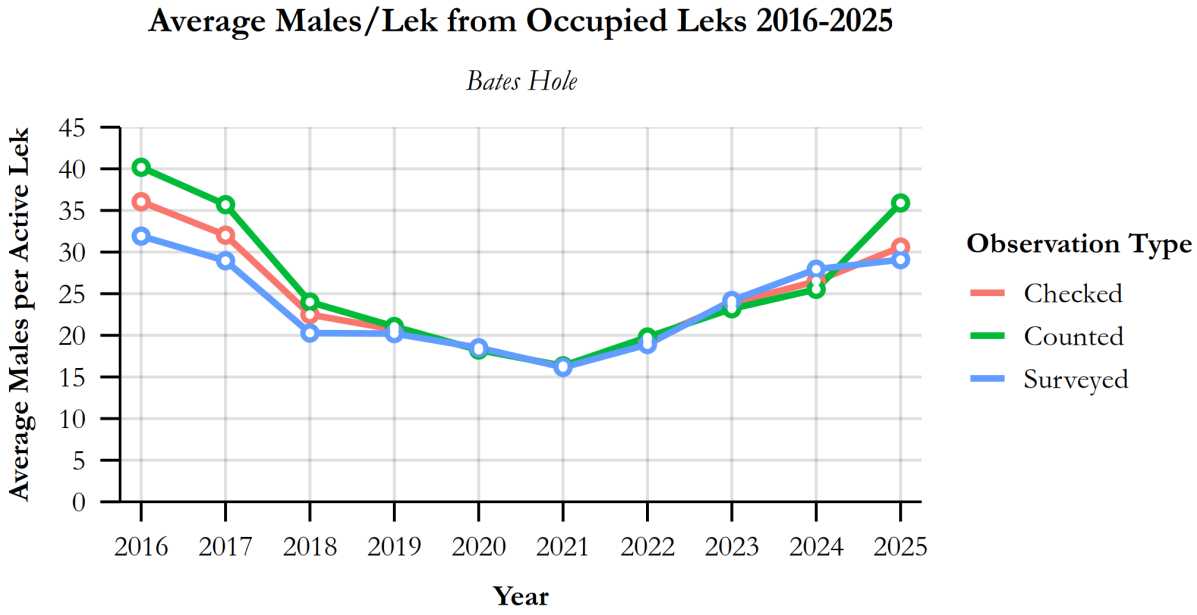


Figure 1: Average Peak Males

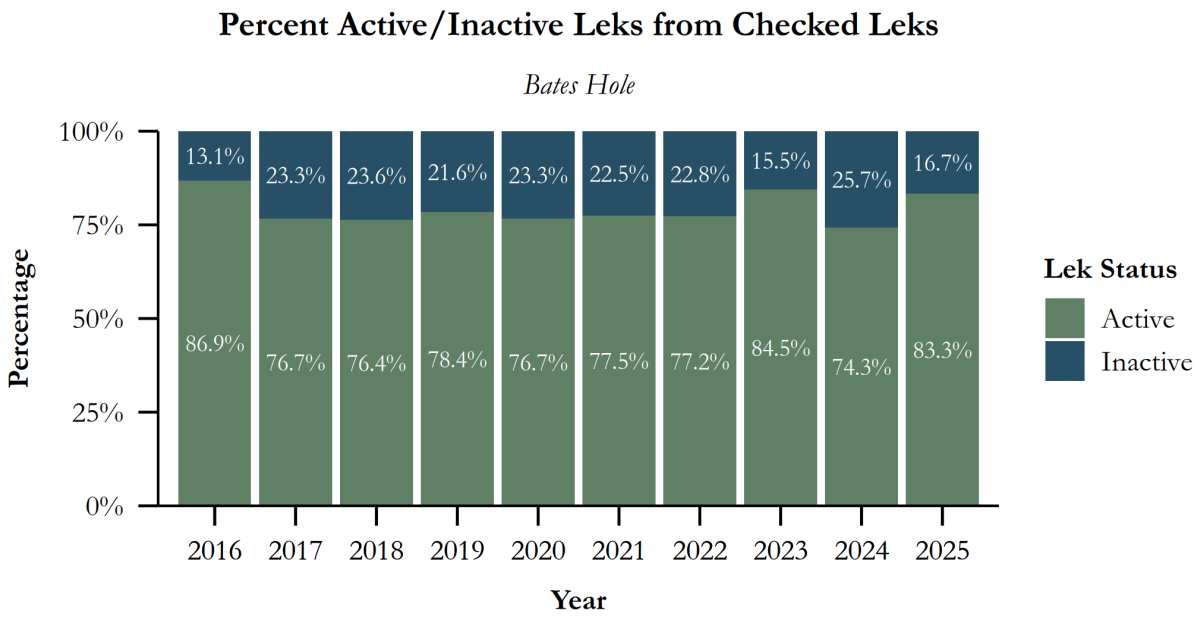


Figure 2: Lek Status

Table 6: Hunting Seasons

Year	Season Start	Season End	Length	Bag/Possession Limit
2016	Sep-17	Sep-30	14	2/4
2017	Sep-16	Sep-30	15	2/4
2018	Sep-15	Sep-30	16	2/4
2019	Sep-21	Sep-30	10	2/4
2020	Sep-19	Sep-30	12	2/4
2021	Sep-18	Sep-30	13	2/4
2022	Sep-17	Sep-30	14	2/4
2023	Sep-16	Sep-30	15	2/4
2024	Sep-21	Sep-30	10	2/4
2025	Sep-20	Sep-30	11	2/4

Table 7: Harvest Totals

Year	Harvest	Hunters	Days	Birds/Day	Birds/Hunter	Days/Hunter
2016	869	466	869	1.0	1.9	1.9
2017	621	315	688	0.9	2.0	2.2
2018	805	464	993	0.8	1.7	2.1
2019	723	403	736	1.0	1.8	1.8
2020	252	212	595	0.4	1.2	2.8
2021	1,071	513	1,195	0.9	2.1	2.3
2022	1,397	631	1,561	0.9	2.2	2.5
2023	1,628	825	1,920	0.8	2.0	2.3
2024	877	506	975	0.9	1.7	1.9
2025	757	535	1,005	0.8	1.4	1.9
Average	**900**	**487**	**1,054**	**0.8**	**1.8**	**2.2**

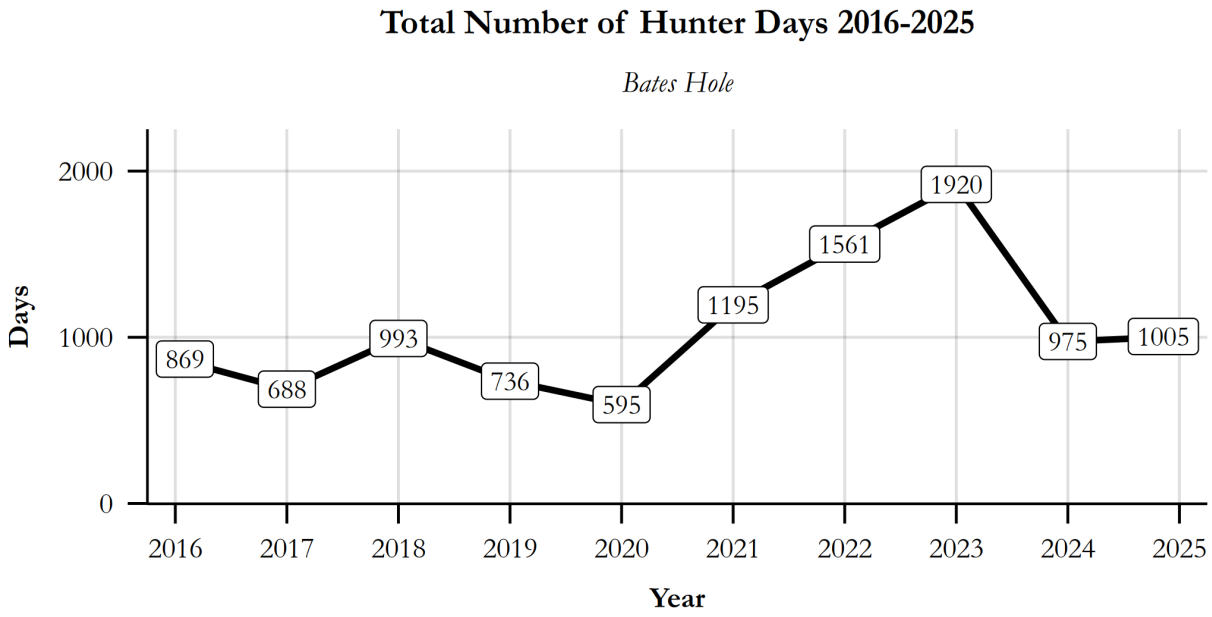


Figure 3: Harvest Days

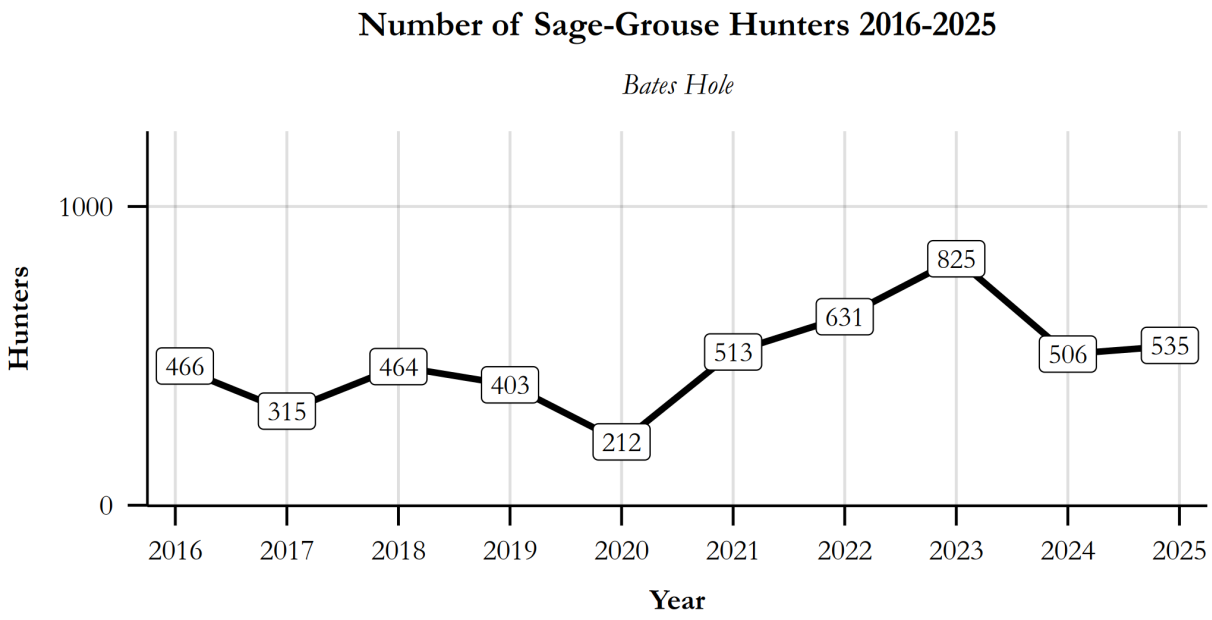


Figure 4: Hunters

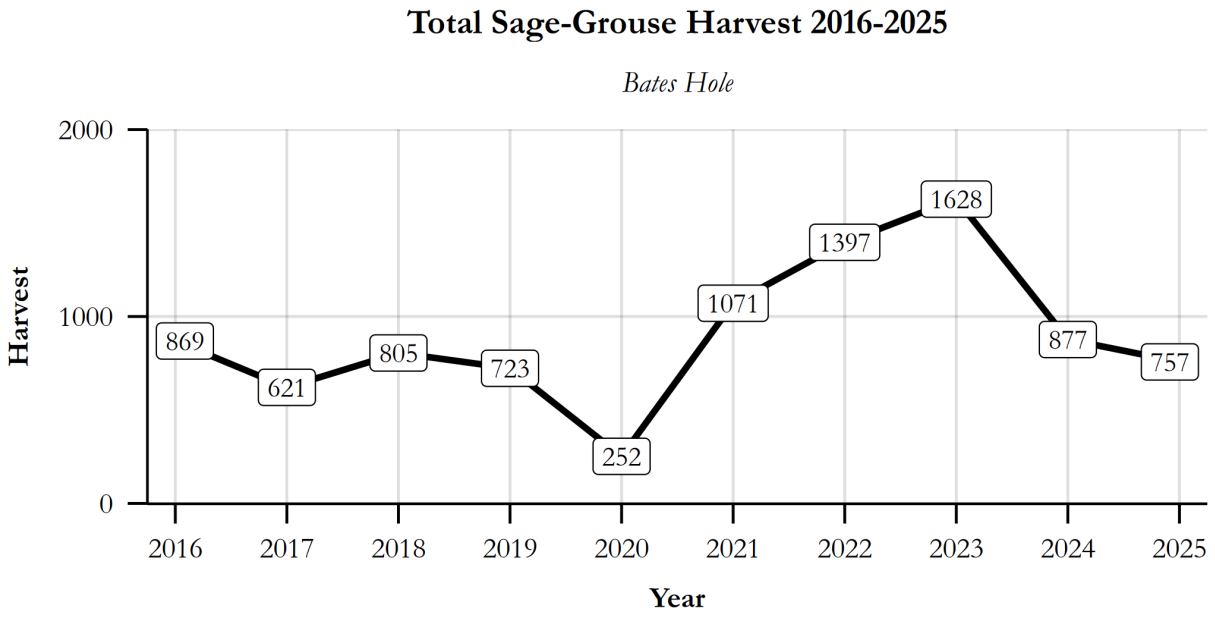


Figure 5: Total Harvest

Table 8: Harvest Composition

		Percent Adult		Percent Yearling		Percent Chick		
Year	Sample Size	Male	Female	Male	Female	Male	Female	Chicks/Hens
2016	217	19.4%	33.2%	10.1%	16.6%	11.5%	9.2%	0.4
2017	145	20%	23.4%	4.8%	6.9%	20%	24.8%	1.5
2018	168	15.5%	25%	4.2%	7.7%	19%	28.6%	1.5
2019	212	13.2%	32.5%	3.8%	14.6%	12.3%	23.6%	0.8
2020	273	8.8%	30.8%	4.8%	11.7%	10.6%	33.3%	1.0
2021	195	8.7%	31.8%	3.1%	10.8%	21%	24.6%	1.1
2022	300	5.7%	24.7%	3%	14.3%	21.3%	31%	1.3
2023	421	11.4%	22.8%	6.2%	13.5%	26.6%	19.5%	1.3
2024	361	18%	18.8%	9.4%	10.5%	16.9%	26.3%	1.5
2025	291	25.4%	35.7%	3.1%	13.4%	9.6%	12.7%	0.5

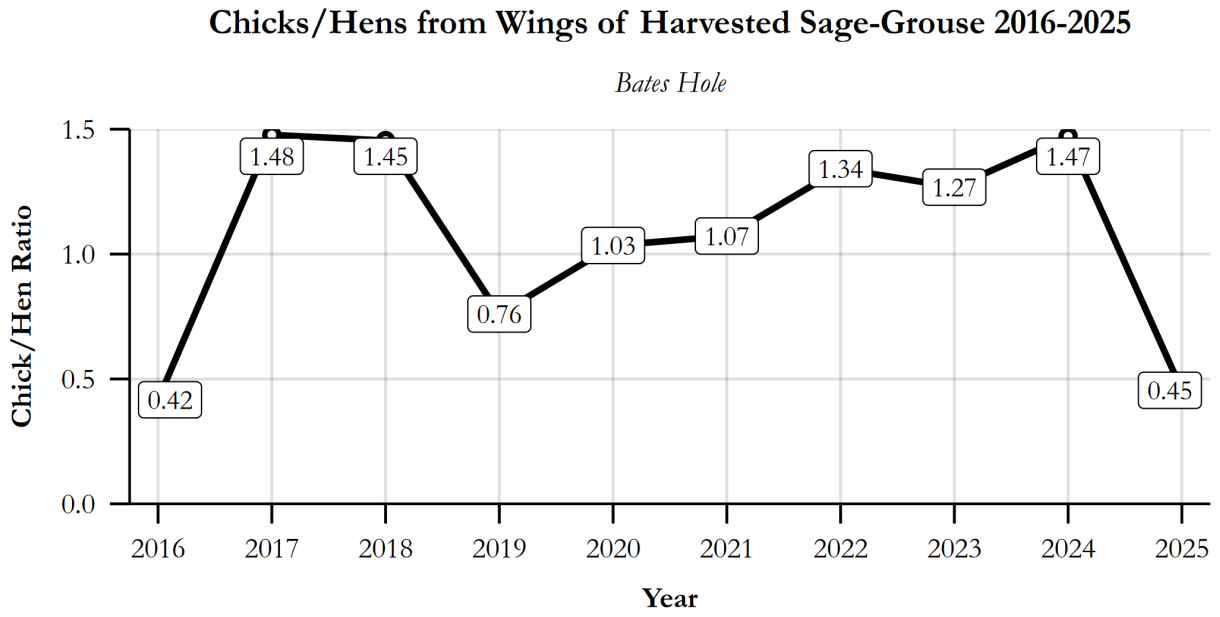


Figure 6: Chick/Hen Ratio

*2024 JCR reported 1.81 for 2024 chick/hen ratio. The currently reported 1.47 is accurate due to late submission/entry of some data.

Lek Monitoring:

As of spring 2025, there are 202 known occupied leks, 101 unoccupied leks, and 28 leks of an undetermined classification within the Bates Hole/ Shirley Basin Local Working Group (BHSBLWG) area (**Table 1)**. In 2025, WGFD personnel, volunteers, and consultants combined efforts to check 92.6% of known occupied leks in the BHSBLWG area (**Table 4)**. A total of 42 occupied leks were counted while 145 were surveyed, with annual status being confirmed on 187 occupied leks in 2025 (**Table 2, Table 3)**. Of these, 140 (83.3%) were active and 28 (16.7%) were inactive (**Table 5)**. The 2025 lek check effort exceeded the average percent of leks checked in the preceding five years, even with changes to availability of federal agency personnel that historically checked leks in Management Area F. Department monitoring efforts shifted from counts to surveys to accommodate the change in available personnel. The ability to monitor hard to access leks was improved with aerial surveys in 2025.

Production:

Sage-grouse populations exhibit cyclical patterns. The 2025 average males/ lek from all (counts and surveys) occupied lek observations (35.9) is similar to the average males/ lek in 2017 (35.7). The last cyclical peak occurred in 2016, with 40.2 males per lek on average (**Table 2**). Male lek attendance then declined sharply from 2016-2021 and has been slowly increasing since (**Figure 1**; **Figure 2)**. Anecdotal field observations by managers have reported strong bird numbers as well.

Harvest:

In general, chick/hen ratios of about 1.5:1 result in relatively stable lek counts the following spring, while chick/hen ratios of 1.8:1 or greater result in subsequent increased lek attendance and ratios below 1.2:1 result in decline. Over the last 10 years, estimated productivity from wing-barrel data has fluctuated between 0.4 and 1.5 chicks per hen within the BHSBLWG area. Over the past 10 years, ratios have never exceeded 1.48, and have only exceeded 1.2 in five years (2017, 2018, and 2022-2024) (**Table 8)**. However, populations have appeared to stabilize and begin to increase. Managers are unsure why chick ratios from wing barrel data are often so low given other signs of population increase. Chick/hen ratios in 2025 were exceptionally low at 0.42 chicks/hen. The chick to hen values for 2024 were calculated using a sample of 291 wings, which represents 38%, respectively, of the estimated harvest based on hunter surveys (**Figure 6)**. Chick ratios in 2025 may be low due to the exceptionally dry summer experienced. Early growing season moisture was sufficient, but quickly dropped off as temperatures rose. Ample precipitation did not occur again until October.

A new harvest survey design was implemented in 2024 to obtain better harvest information (**Figure 5; Figure 6)**. For anecdotes regarding the survey prior to 2024, please refer to the 2023 JCR. Thr number of sage-grouse hunters in 2024 (506) was similar to hunters in 2025 (535). There was a slight decrease in harvested birds in 2025 compared to 2024 (877 and 757, respectively) (**Figure 4**; **Figure 5**).

Habitat:

The BHSBLWG area has many of the same habitat quality concerns that occur throughout sage-grouse range including habitat alteration, development and fragmentation, drought, noxious and invasive weeds, especially annual invasive grasses, declines in mesic habitat, and improper livestock grazing in some areas. In recent years, managers are most concerned about on-going large-scale industrial wind development projects as well as the potential for expansion of wind development within Shirley Basin. The transmission lines within the BHSBLWG area have also been a recent and on-going large-scale disturbance within prime sage-grouse habitat.

Sagebrush condition throughout some portions of the area may also be of concern. Past sagebrush transects have repeatedly shown high levels of browse utilization by pronghorn and domestic sheep. These issues likely continue in some areas.

The RR316 wildfire burned 14,200 acres outside of Hanna, Wyoming in late summer 2020. High fire severity resulted in substantial loss of sagebrush cover in sage-grouse core area. Native and perennial vegetation continues to recover within the burn scar. Biologists and land managers continue to monitor cheatgrass colonization and expansion throughout the burn scar. Shrub recovery has been limited. In 2025, a water development project within the burn scar was completed. Five water tanks and a storage tank with the associated pipeline were constructed during late summer. Improved water availability will allow land managers to develop rotational grazing plans for more uniform and dispersed utilization of rangeland and riparian habitats.

The BLM has continued wildfire restoration efforts, by planting 5,000 plants in the RR316 fire scar in 2024. The success of this planting will be evaluated in the winter of 2025/2026. In 2025, the BLM concentrated on the Taylor Draw fire scar, where approximately 1,600 sagebrush plants were planted in December 2025. This fire is presumed to have burned more intensely than RR316, evidenced by the complete lack of residual plant life or grass regrowth, a condition described as "slicked off." This area also faces severe issues with sand displacement and erosion.

The Pedro Mountain Fire burned about 19,000 acres in 2019. However, very little of the fire was in suitable sage-grouse habitat. The very southern portion of the burn is of most concern to sage-grouse managers. Sagebrush restoration efforts have not occurred. The area was treated with imazapic (Plateau) postfire to control cheatgrass, but recent on-the-ground observations of large areas of cheatgrass are concerning to managers. The BLM, WGFD, and Carbon County Weed and Pest are planning to retreat the area in 2026/2027.

Extensive habitat work has occurred in the Upper Bates Hole portion of this working group area and includes conifer removal, mountain big sagebrush treatments to increase vegetation diversity and production, wet meadow/riparian/mesic improvements, fence marking, and cheatgrass treatments. Completed and planned cheatgrass treatments extend into the Shirley Basin and address sources of cheatgrass which threaten large, intact portions of high-quality sagebrush habitat.

Disease:

There were no confirmed cases of West Nile virus (WNv) in sage-grouse within the BHSBLWG area during this reporting period. While WGFD field personnel, other agency personnel and the public are requested to recover and submit carcasses of dead birds to the Wyoming State Vet Lab for necropsy, very few, if any birds are submitted. Sage-grouse carcasses typically do not persist in the field for very long, making it difficult for timely discovery and submission. The extent of WNv infection and its effects on sage-grouse populations throughout the BHSBLWG area is unknown, but potentially significant in years when outbreaks occur.

Conservation Planning:

The Bates Hole/ Shirley Basin Sage-Grouse Local Working Group (BHSBSGLWG) held one meeting during this reporting period. During this meeting all funding was awarded to the E. Fork Bates Creek Mesic Habitat Improvement project.

Management Recommendations:

Changes in regulation implemented in 2024 required sage-grouse hunters to obtain a permit. This has allowed for the acquisition of more accurate harvest data to inform management and hunting seasons. Managers believe there may be some areas within the BHSBLWG area that have unsustainably high concentrations of hunters throughout the course of the season, and are waiting for continued improved harvest data to more accurately assess the situation.

Big Horn Basin

Job Completion Report

Prepared By: Sam Stephens, Greybull Wildlife Biologist

Period Covered: 1-1-2025 to 12-31-2025

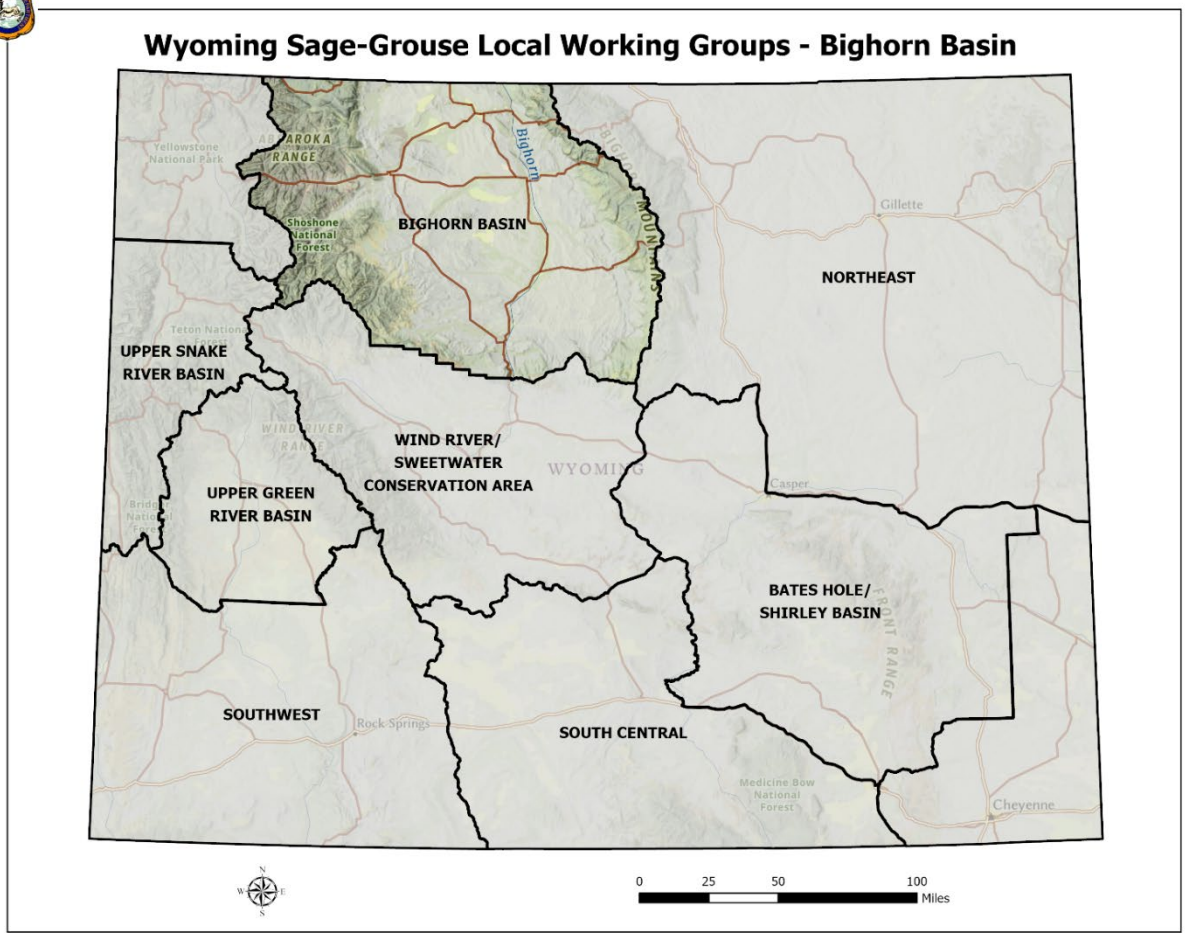


Table 1: Sage-Grouse Lek Characteristics

	Group	N	Percent
BLM Office			
	Cody	118	37.2%
	Worland	199	62.8%
Biologist			
	Cody	89	28.1%
	Greybull	52	16.4%
	Worland	176	55.5%
Classification			
	Occupied	214	67.5%
	Undetermined	37	11.7%
	Unoccupied	66	20.8%
County			
	Big Horn	48	15.1%
	Hot Springs	57	18%
	Park	108	34.1%
	Washakie	104	32.8%
Land Status			
	BOR	3	0.9%
	State	20	6.3%

	Group	N	Percent
Land Status			
	BLM	211	66.6%
	Private	83	26.2%
Lek Status			
	Active	144	45.4%
	Inactive	128	40.4%
	Unknown	45	14.2%
Management Area			
	B	317	100%
Region			
	Cody	317	100%
Warden			
	Greybull	23	7.3%
	Lovell	31	9.8%
	Meeteetse	32	10.1%
	North Cody	26	8.2%
	Powell	13	4.1%
	South Cody	30	9.5%
	Ten Sleep	54	17%
	Thermopolis	48	15.1%
	Worland	60	18.9%

Table 2: Leks Counted

Year	Occupied	Counted	Percent Counted	Peak Males	Average Peak Males
2016	250	86	34.4%	2,258	30.5
2017	252	56	22.2%	1,636	34.8
2018	243	60	24.7%	1,115	24.2
2019	243	59	24.3%	897	17.2
2020	234	70	29.9%	894	16.9
2021	233	113	48.5%	1,082	14.2
2022	231	79	34.2%	815	15.7
2023	227	80	35.2%	1,168	19.1
2024	226	92	40.7%	1,731	23.4
2025	221	101	45.7%	1,783	25.5

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 3: Leks Surveyed

Year	Occupied	Surveyed	Percent Surveyed	Peak Males	Average Peak Males
2016	250	140	56%	2,053	23.3
2017	252	175	69.4%	2,286	19.2
2018	243	153	63%	1,434	14.2
2019	243	139	57.2%	835	9.6
2020	234	127	54.3%	617	7.9
2021	233	82	35.2%	313	7.8
2022	231	123	53.2%	637	10.1
2023	227	110	48.5%	654	10.5
2024	226	117	51.8%	710	12.7
2025	221	76	34.4%	743	14.6

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 4: Leks Checked

Year	Occupied	Checked	Percent Checked	Peak Males	Average Peak Males
2016	250	226	90.4%	4,311	26.6
2017	252	231	91.7%	3,922	23.6
2018	243	213	87.7%	2,549	17.3
2019	243	198	81.5%	1,732	12.5
2020	234	197	84.2%	1,511	11.5
2021	233	195	83.7%	1,395	12.0
2022	231	202	87.4%	1,452	12.6
2023	227	190	83.7%	1,822	14.8
2024	226	209	92.5%	2,441	18.8
2025	221	177	80.1%	2,526	20.9

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 5: Lek Status of Leks Checked

Year	Active	Inactive	Unknown	Known Status	% Active	% Inactive
2016	173	26	27	199	86.9%	13.1%
2017	171	35	25	206	83%	17%
2018	152	34	27	186	81.7%	18.3%
2019	149	42	7	191	78%	22%
2020	137	58	2	195	70.3%	29.7%
2021	125	53	17	178	70.2%	29.8%
2022	118	60	24	178	66.3%	33.7%
2023	126	53	11	179	70.4%	29.6%
2024	146	34	29	180	81.1%	18.9%
2025	125	46	6	171	73.1%	26.9%

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Inactive - Confirmed no birds/sign present (see official definitions)

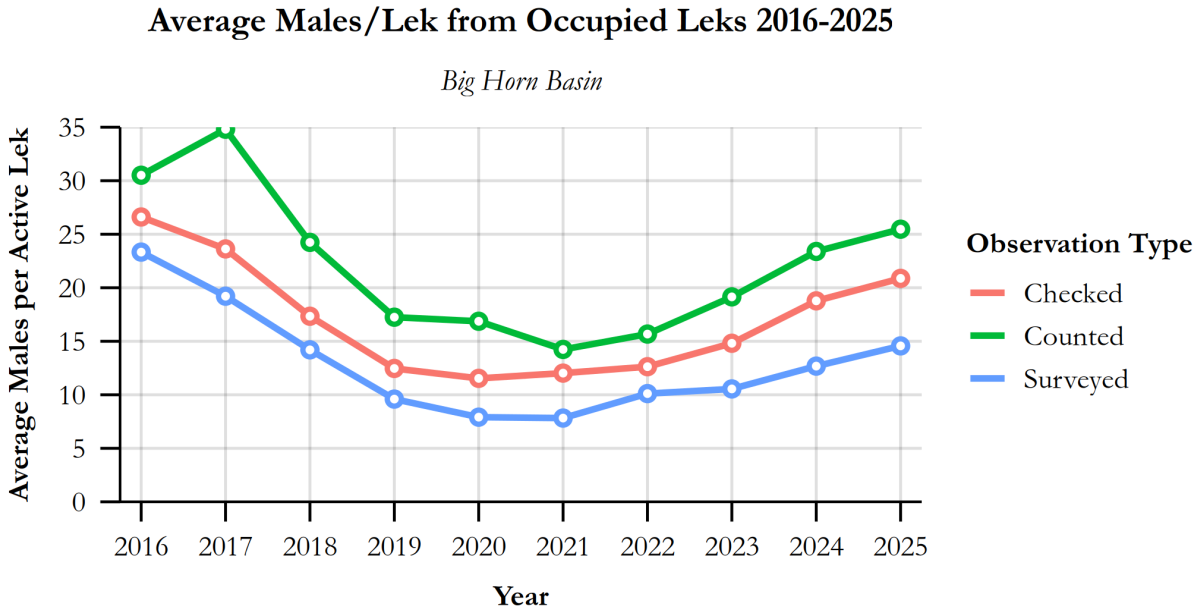


Figure 1: Average Peak Males

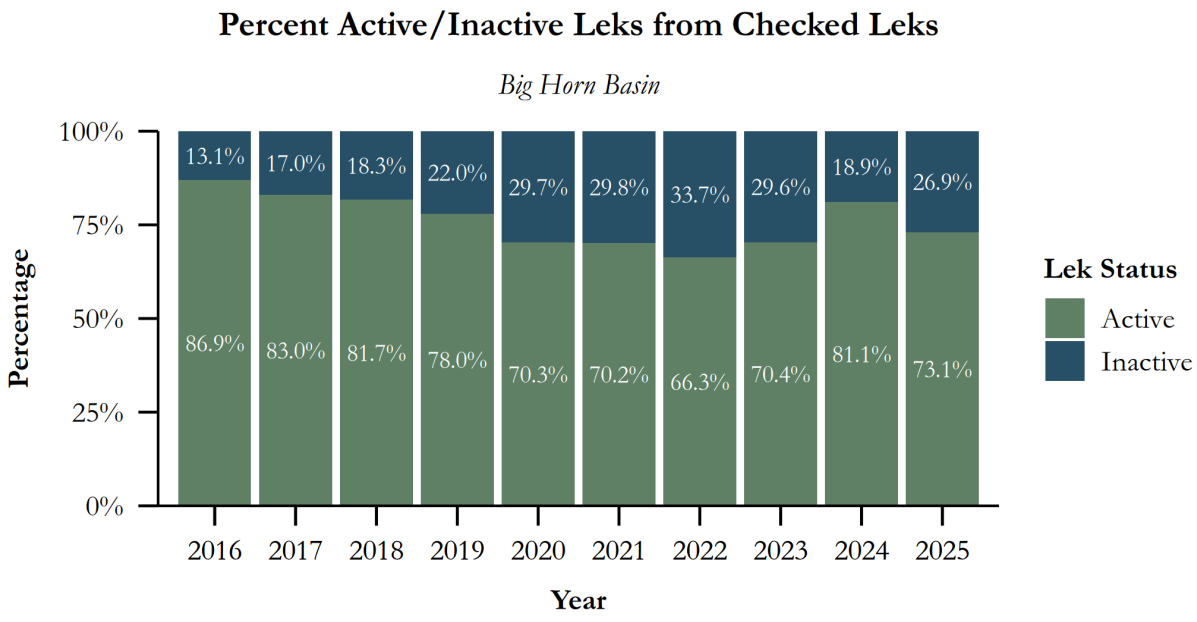


Figure 2: Lek Status

Table 6: Hunting Seasons

Year	Season Start	Season End	Length	Bag/Possession Limit
2016	Sep-17	Sep-30	14	2/4
2017	Sep-16	Sep-30	15	2/4
2018	Sep-15	Sep-30	16	2/4
2019	Sep-21	Sep-30	10	2/4
2020	Sep-19	Sep-30	12	2/4
2021	Sep-18	Sep-30	13	2/4
2022	Sep-17	Sep-30	14	2/4
2023	Sep-16	Sep-30	15	2/4
2024	Sep-21	Sep-30	10	2/4
2025	Sep-20	Sep-30	11	2/4

Table 7: Harvest Totals

Year	Harvest	Hunters	Days	Birds/Day	Birds/Hunter	Days/Hunter
2016	594	302	868	0.7	2.0	2.9
2017	635	300	745	0.9	2.1	2.5
2018	648	418	1,351	0.5	1.6	3.2
2019	312	244	463	0.7	1.3	1.9
2020	767	331	1,037	0.7	2.3	3.1
2021	586	493	1,290	0.5	1.2	2.6
2022	497	674	1,731	0.3	0.7	2.6
2023	703	611	1,384	0.5	1.2	2.3
2024	924	578	1,342	0.7	1.6	2.3
2025	654	595	1,350	0.5	1.1	2.3
Average	**632**	**455**	**1,156**	**0.6**	**1.5**	**2.6**

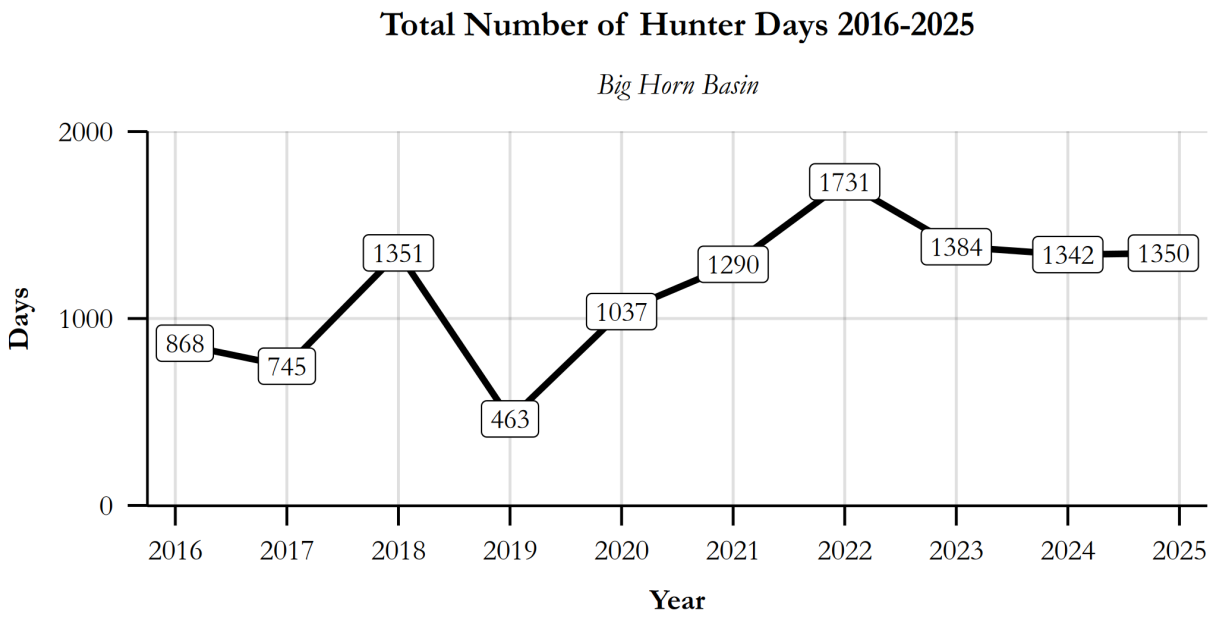


Figure 3: Harvest Days

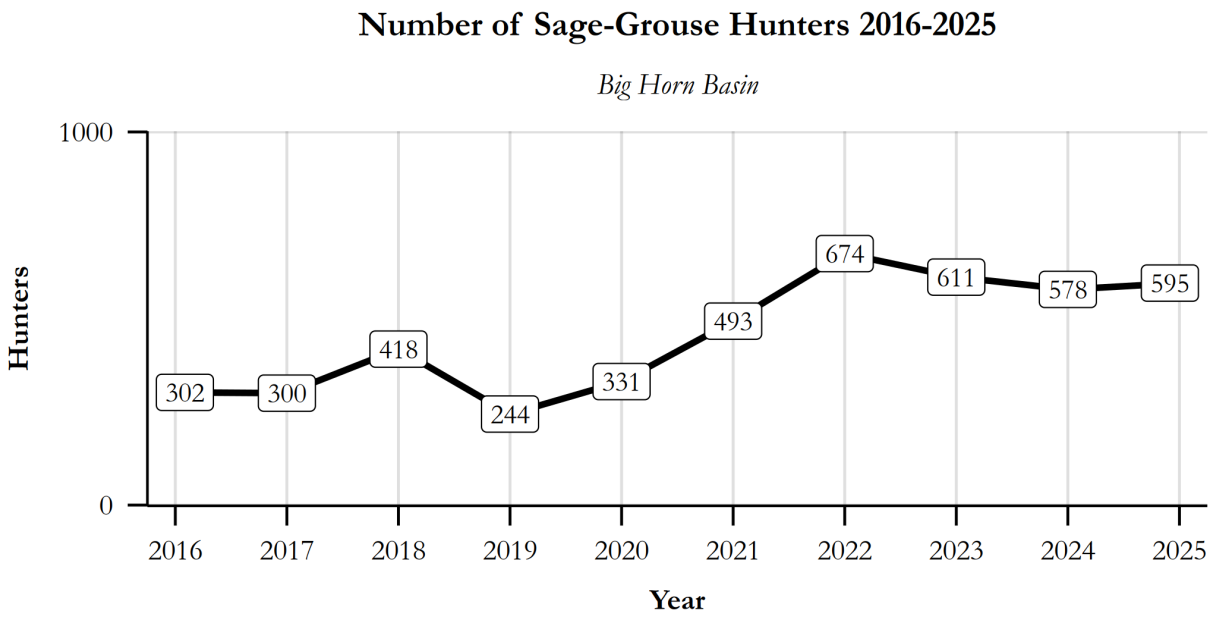


Figure 4: Hunters

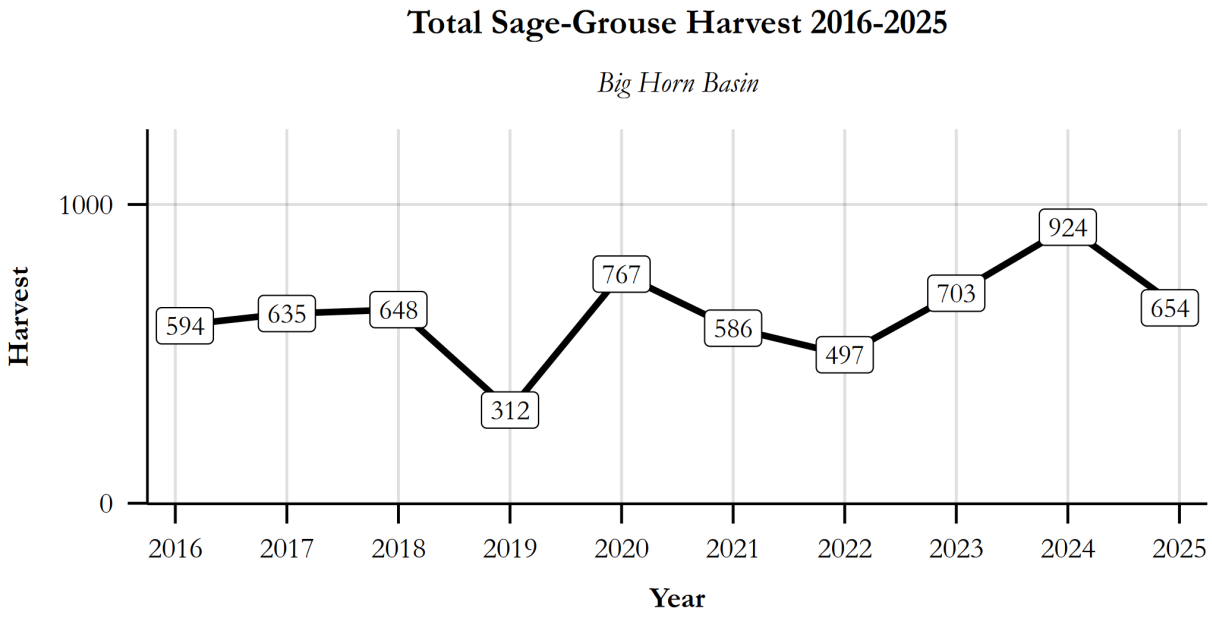


Figure 5: Total Harvest

Table 4: Harvest Composition

		Percent Adult		Percent Yearling		Percent Chick		
Year	Sample Size	Male	Female	Male	Female	Male	Female	Chicks/Hens
2024	34	14.7%	8.8%	5.9%	11.8%	29.4%	29.4%	2.9
2025	32	31.2%	25%	3.1%	18.8%	18.8%	3.1%	0.5

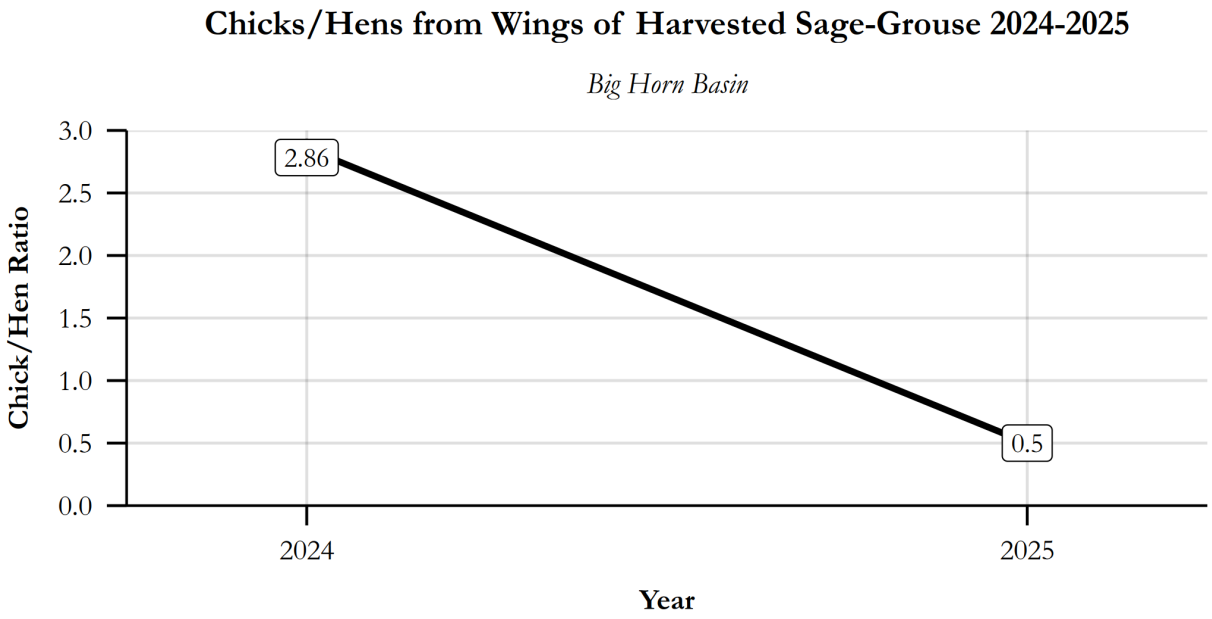


Figure 6: Chick/Hen Ratio

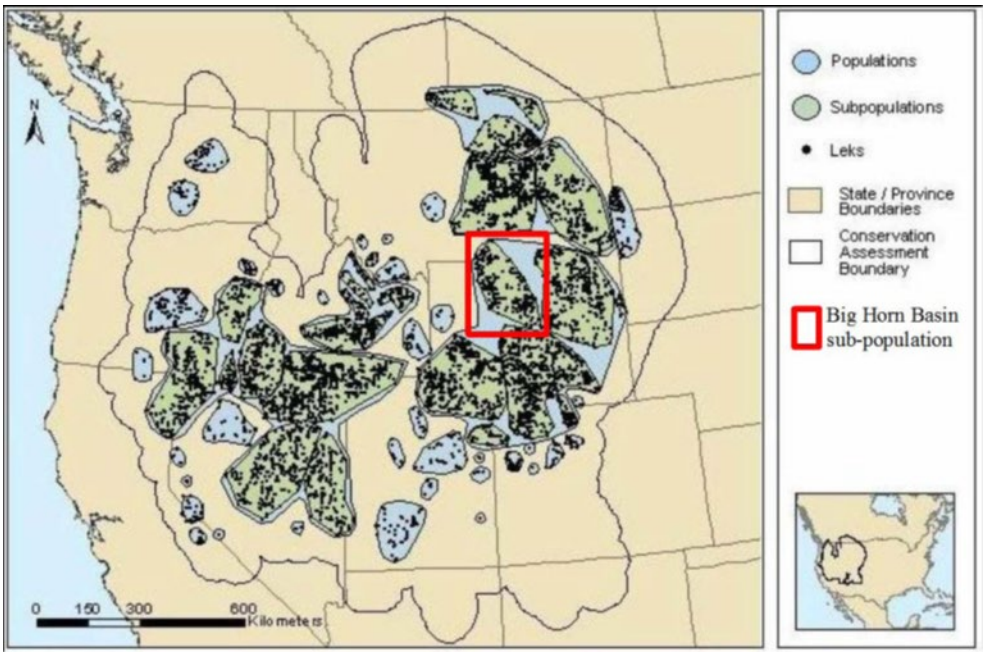


Figure 7. Discrete populations and subpopulations of sage-grouse in western North America, with the Big Horn Basin sub-population surrounded by the red rectangle. (Adapted from Connelly et. al. 2004).

Lek Monitoring:

In spring 2025, 101 occupied leks were counted in the Bighorn Basin (Basin), resulting in an average of 25.5 males per lek (**Table 2**). We surveyed 76 leks for a total of 177 leks checked during the 2025 season (2016-25 average=203; **Table 4**). To evaluate long-term population trends, we combine and average survey and count lek data since the count protocol was not used during the late 1980s and early 1990s. Fortunately, long-term data sets from Wyoming and neighboring states indicate similar trends from both counts and surveys (Fedy and Aldridge 2011).

The average number of male sage-grouse on all occupied leks showed an increase from 18.8 males in 2024 to 20.9 males in 2025 (**Table 4**). Sage-grouse populations cycle on approximate 7 to 10-year intervals (Fedy and Doherty 2010). The proportion of inactive leks increased significantly during the 2020-2023 period (average: 30.7% inactive). In 2024, the proportion of inactive leks decreased to 18% inactive but increased again in 2025 to 26% (**Table 5**).

Production:

Wing barrels were deployed in the Worland Biologist district to collect wings from harvested birds and estimate the chick: hen ratio. Typically, a ratio exceeding 1.8 chicks per hen indicates a growing population. In 2025, 32 sage-grouse wings were collected to derive a recruitment ratio of 0.5 chicks per hen (**Figure 6**). This ratio is significantly lower than what was observed in 2024 (2.86). Although this could be a product of small sample size, it indicates a significant departure from an increasing population trend and is more commensurate with the statewide ratio (0.8) measured in 2025. Wing barrels will again be deployed for wing collection in the Worland District in 2026.

Harvest:

Average (1982-1994) annual harvest in the Basin was 3,756 sage-grouse taken by 1,300 hunters during 3,118 hunter days (2.8 birds/hunter, 2.4 days/hunter). During 1995-2001 an average of 549 hunters took 1,056 sage-grouse during 1,567 days of hunting (1.9 birds/hunter, 2.8 days/hunter). During the most recent period (2016-2025), hunters averaged 1.5 birds/hunter and 2.6 days/hunter. In 2025, 595 hunters in the Big Horn Basin harvested 654 sage-grouse (1.1 birds/hunter) (**Table 7**); spending 1350 hunter-days afield (2.3 days/hunter) during the 11-day hunting season (**Table 6**). For more information, please see the **2025 Sage-Grouse Harvest Survey**.

Habitat:

Sage-grouse habitat within the Bighorn Basin exists predominantly in low precipitation zones ranging from 5-9" to 7-12" annually. Vegetation communities within the Basin are diverse and vary according to soil type, annual precipitation, and elevation. Major vegetation communities in the Basin include sagebrush steppe, saltbush badlands, irrigated agricultural lands, cottonwood dominated riparian corridors, mixed mountain shrub, and mixed conifer forests with interspersed aspen stands at higher elevations.

Connelly et al. (2004) recognized sage-grouse in the Basin as a distinct sub-population (**Figure 7**). Mountain ranges to the east and west restrict most sage-grouse movement due to unsuitable habitat. There are several leks near the Wyoming/Montana state line with movement between states occurring. Copper Mountain, the Owl Creek Mountains, and the southern Bighorn Mountains provide suitable habitat serving as travel corridors to adjacent populations.

In 2025, 317 sage-grouse leks are known to occur in the conservation area with 214 leks known to be occupied and 66 leks known to be unoccupied (**Table 1**). Undetermined leks (n=37) need additional observations before being reclassified as occupied or unoccupied. A majority of leks (67%) occur on BLM managed land and 26% of leks occur on private land (**Table 1**). There are potentially other leks in the Basin not yet discovered.

Conservation Planning:

The BHBLWG was formed in September 2004 to develop and implement a local conservation plan for sage-grouse and sagebrush habitats. The BHBLWG's mission statement is, "*Through the efforts of local concerned citizens, recommend management actions that are based on the best science to enhance sagebrush habitats and ultimately sage-grouse populations within the Big Horn Basin.*"

The BHBLWG's local plan identifies factors and impacts that may influence sage-grouse populations in the Basin, and outlines goals and objectives to address habitats, populations, research and education. Strategies and commitments in the local plan are designed to improve sage-grouse habitats and populations in the Basin. The local plan was updated in 2013 and highlights completed and ongoing projects in the Basin in addition to summarizing state and nation-wide policy and programs. The updated plan can be viewed at the WGFD website: **https://wgfd.wyo.gov/Habitat/Sage-Grouse-Management.**

Most recently, the BHBLWG met in 2025 to discuss project funding allocation for sage-grouse research and habitat improvement projects. The group agreed to grant $28,000 to fund Oregon State University research assessing sage-grouse movement and seasonal habitat connectivity in the Bighorn Basin. The remaining funds of $12,000 were granted to University of Wyoming to research Free-Roaming Horse Micro-Habitat Impacts to Sage-Grouse Nest and Brood Survival.

Management Recommendations:

Data collected in 2025 indicates that the sage-grouse population in the Bighorn Basin may have peaked and will either plateau or begin to decline in 2026. In 2024 and 2025 peak male attendance climbed to levels not seen since 2018. This oscillation resembles the natural 7–10-year population cycle normally observed in grouse populations. Although the sample size is limited: the 2025 chick: hen data suggest that for the following biological year, sage-grouse populations in the Bighorn Basin will likely reverse this increasing trend. Sage-grouse in the Basin face threats, but are not in danger of foreseeable extirpation. The incremental invasion of cheatgrass and dramatic impact from wildfire continue to be the preeminent threats to sage-grouse habitat loss in the Bighorn Basin. In 2025, two large-scale wildfires burned approximately 106,532 acres of sage-grouse core area which hosted a combined 15 occupied leks and 197 strutting males in last spring's observations. Future land management decisions should prioritize reclaiming these areas and preventing future loss of habitat.

Literature Cited:

Fedy, B. C. and C. L. Aldridge. 2011. The importance of within-year repeated counts and the influence of scale on long-term monitoring of sage-grouse. Journal of Wildlife Management 75(5): 1022-1033.

Northeast

Job Completion Report

Prepared By: Erika Peckham, Gillette Wildlife Biologist

Period Covered: 1-1-2025 to 12-31-2025

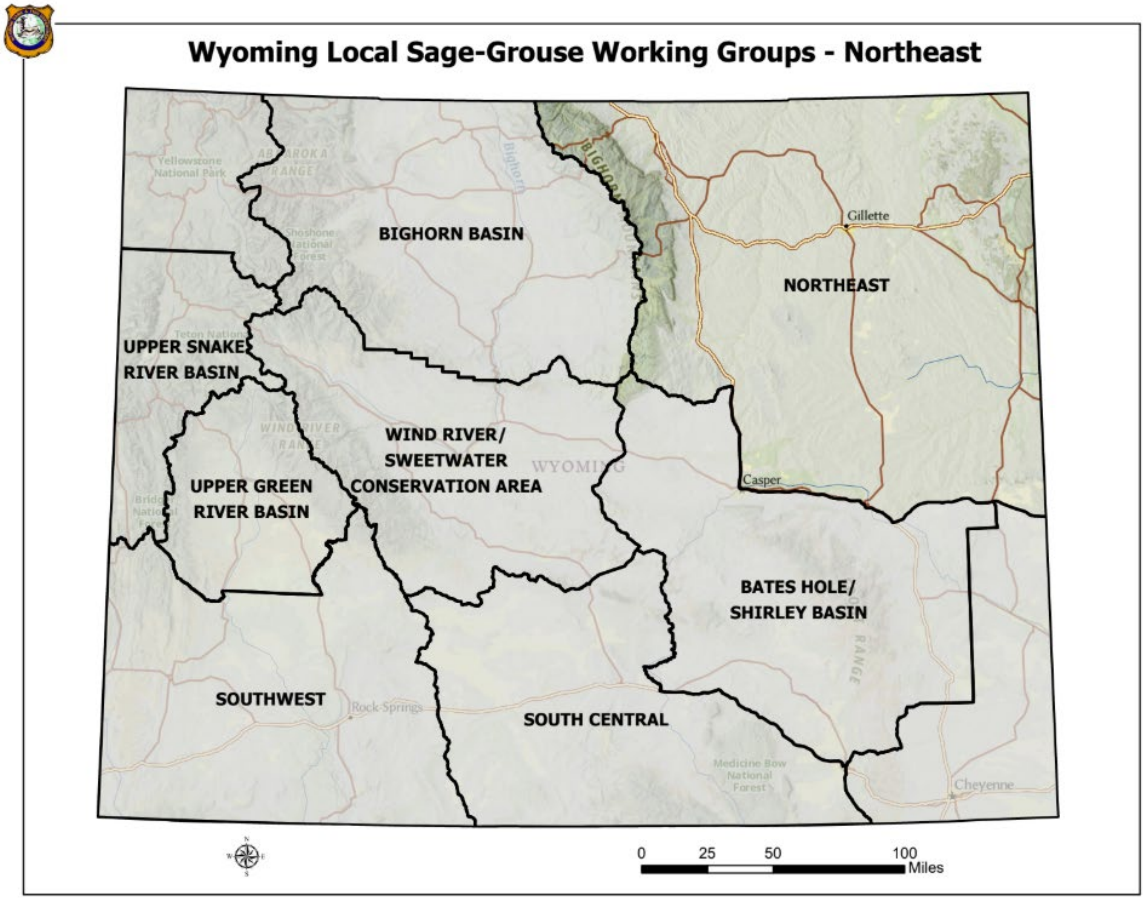


Table 1: Sage-Grouse Lek Characteristics

	Group	N	Percent
BLM Office			
	Buffalo	405	66.1%
	Casper	74	12.1%
	Newcastle	134	21.9%
Biologist			
	Buffalo	81	13.2%
	Casper	15	2.4%
	Douglas	65	10.6%
	Gillette	278	45.4%
	Newcastle	81	13.2%
	Sheridan	93	15.2%
Classification			
	Occupied	319	52%
	Undetermined	86	14%
	Unoccupied	208	33.9%
County			
	Big Horn, MT	1	0.2%
	Campbell	214	34.9%
	Carter, MT	1	0.2%
	Converse	58	9.5%
	Crook	27	4.4%
	Johnson	155	25.3%
	Natrona	16	2.6%
	Niobrara	27	4.4%
	Powder River, MT	1	0.2%
	Sheridan	34	5.5%
	Weston	79	12.9%

	Group	N	Percent
Land Status			
	BLM	57	9.3%
	Private	473	77.2%
	State	45	7.3%
	USFS	38	6.2%
Lek Status			
	Active	175	28.5%
	Inactive	243	39.6%
	Unknown	195	31.8%
Management Area			
	C	613	100%
Region			
	Casper	161	26.3%
	Sheridan	452	73.7%
Warden			
	Buffalo	83	13.5%
	Dayton	24	3.9%
	Douglas	27	4.4%
	East Casper	6	1%
	Glenrock	30	4.9%
	Kaycee	62	10.1%
	Lusk	27	4.4%
	Moorcroft	78	12.7%
	Newcastle	64	10.4%
	North Gillette	69	11.3%
	Sheridan	12	2%
	South Gillette	124	20.2%
	Sundance	6	1%
	West Casper	1	0.2%

Table 2: Leks Counted

Year	Occupied	Counted	Percent Counted	Peak Males	Average Peak Males
2017	373	162	43.4%	1,845	20.1
2018	368	175	47.6%	1,376	13.8
2019	361	153	42.4%	1,116	12.3
2020	358	159	44.4%	1,516	15.5
2021	352	147	41.8%	1,044	13.9
2022	350	133	38%	1,004	13.8
2023	344	161	46.8%	1,397	14.9
2024	345	128	37.1%	1,268	16.3
2025	336	126	37.5%	1,089	14.5

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 3: Leks Surveyed

Year	Occupied	Surveyed	Percent Surveyed	Peak Males	Average Peak Males
2017	373	163	43.7%	1,375	16.4
2018	368	107	29.1%	654	12.3
2019	361	143	39.6%	841	11.5
2020	358	81	22.6%	495	13.4
2021	352	141	40.1%	848	13.0
2022	350	151	43.1%	627	9.5
2023	344	119	34.6%	505	10.7
2024	345	158	45.8%	774	12.1
2025	336	149	44.3%	654	11.3

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 4: Leks Checked

Year	Occupied	Checked	Percent Checked	Peak Males	Average Peak Males
2017	373	325	87.1%	3,220	18.3
2018	368	282	76.6%	2,030	13.3
2019	361	296	82%	1,957	11.9
2020	358	240	67%	2,011	14.9
2021	352	288	81.8%	1,892	13.5
2022	350	284	81.1%	1,631	11.7
2023	344	280	81.4%	1,902	13.5
2024	345	286	82.9%	2,042	14.4
2025	336	275	81.8%	1,743	13.1

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 5: Lek Status of Leks Checked

Year	Active	Inactive	Unknown	Known Status	% Active	% Inactive
2017	179	98	48	277	64.6%	35.4%
2018	157	97	28	254	61.8%	38.2%
2019	166	79	51	245	67.8%	32.2%
2020	137	86	17	223	61.4%	38.6%
2021	145	85	58	230	63%	37%
2022	142	93	49	235	60.4%	39.6%
2023	143	83	54	226	63.3%	36.7%
2024	150	79	57	229	65.5%	34.5%
2025	145	75	55	220	65.9%	34.1%

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Inactive - Confirmed no birds/sign present (see official definitions)

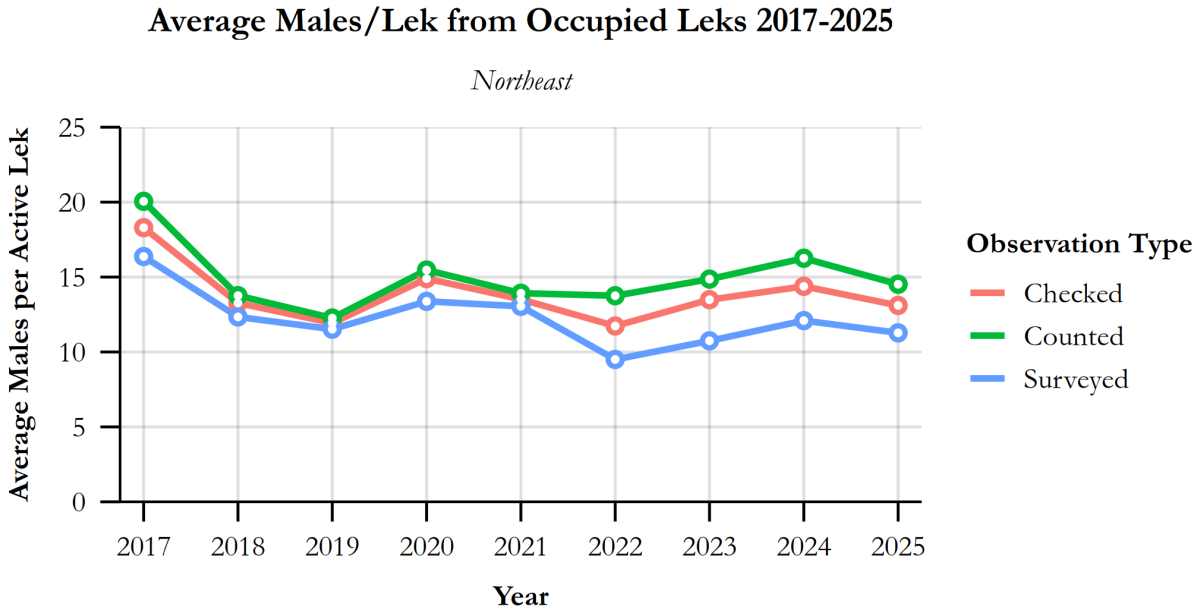


Figure 1: Average Peak Males

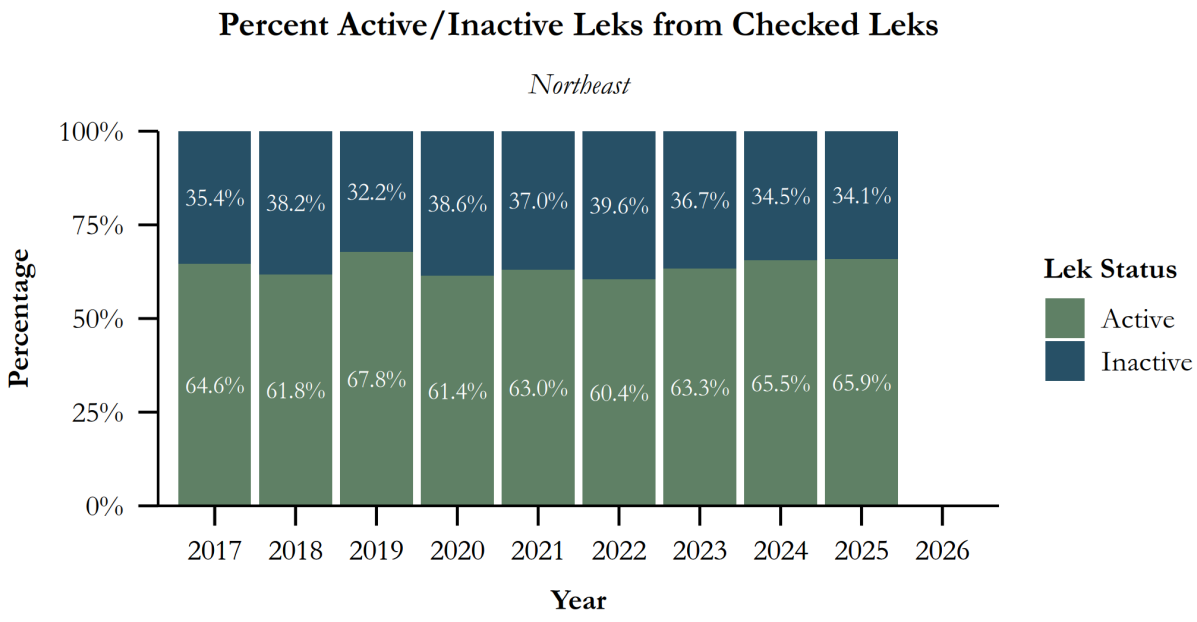


Figure 2: Lek Status

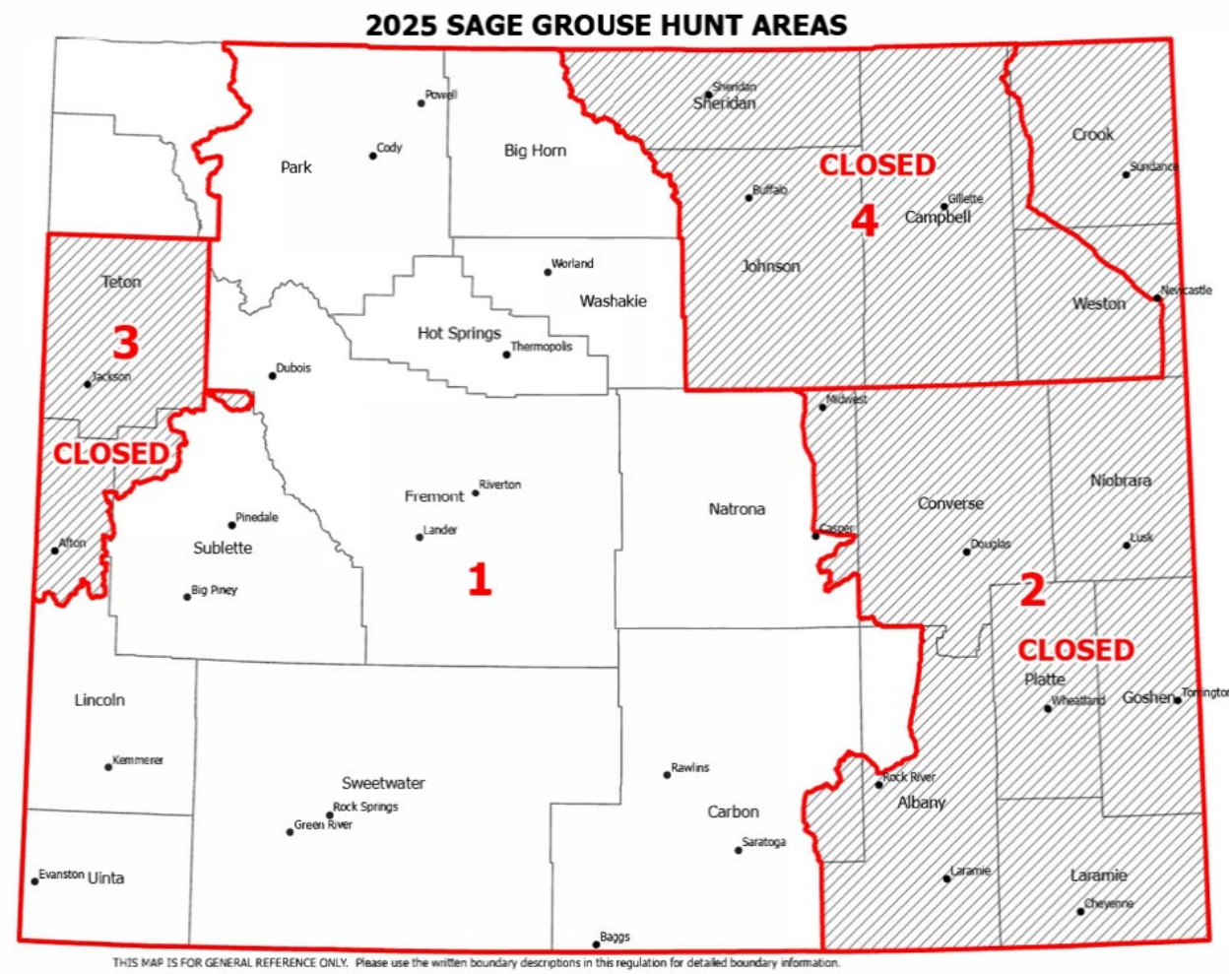


Figure 3: Sage-Grouse Hunt Areas

Table 6: Hunting Seasons

Year	Season Start	Season End	Length	Bag/Possession Limit
2017	Sep-16	Sep-18	3	2/4
2018	Sep-15	Sep-17	3	2/4
2019	Sep-21	Sep-23	3	2/4
2020	Sep-19	Sep-21	3	2/4
2021	Sep-18	Sep-20	3	2/4
2022	Sep-17	Sep-19	3	2/4
2025	Sep-20	Sep-30	11	2/4

Table 7: Harvest Totals

Year	Harvest	Hunters	Days	Birds/Day	Birds/Hunter	Days/Hunter
2017	118	145	344	0.3	0.8	2.4
2018	245	200	479	0.5	1.2	2.4
2019	129	122	203	0.6	1.1	1.7
2020	126	168	798	0.2	0.8	4.8
2021	404	205	755	0.5	2.0	3.7
2022	429	217	698	0.6	2.0	3.2
2023	139	95	221	0.6	1.5	2.3
2024	71	37	67	1.1	1.9	1.8
2025	44	45	101	0.4	1.0	2.2
Average	**189**	**137**	**407**	**0.5**	**1.4**	**2.7**

Table 8: Fire Data

Sage-Grouse Data for Northeast Wyoming Fires - August 27, 2024

Fire	Core, Connectivity, or Proposed Area	Acres Burnt	% of Core, Connectivity, or Proposed Area
Flat Rock	NE E	8,481	5%
House Draw	Buffalo Core	113,085	32%
House Draw	NE C	18,198	19%
Remington	Buffalo Connectivity	1,076	<1%
Wildcat Creek	Thunder Basin Core	5,200	<1%

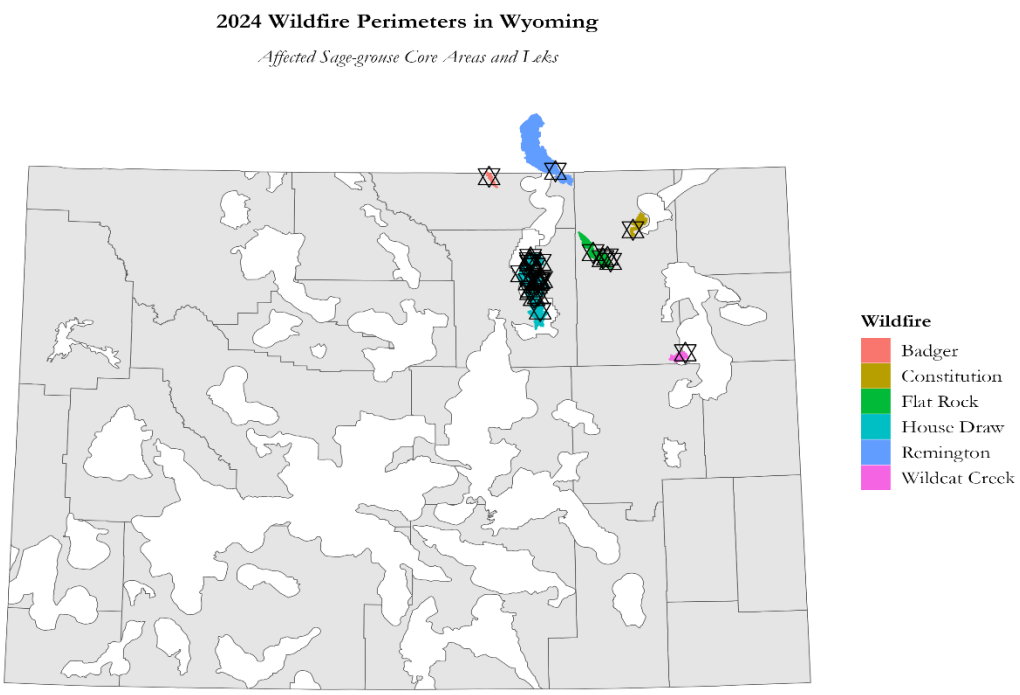


Figure 4: 2024 Wildfire Perimeters in Northeast Wyoming

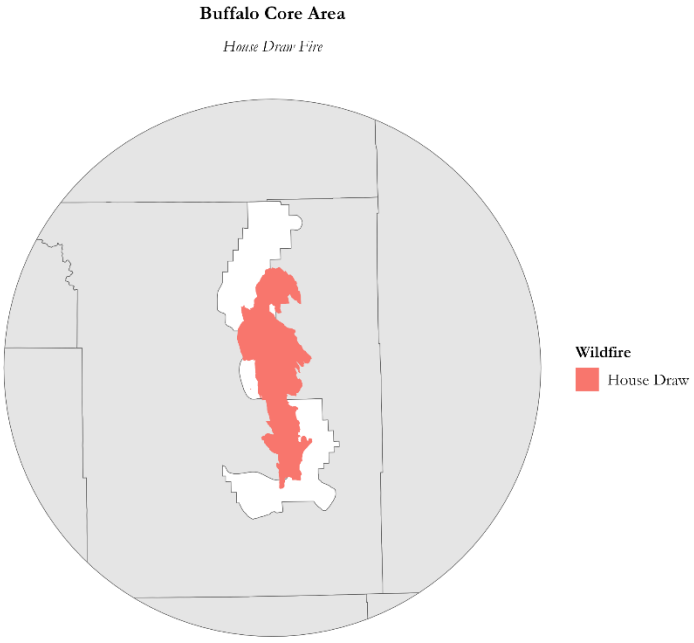


Figure 5: Buffalo Core Area and House Draw Fire

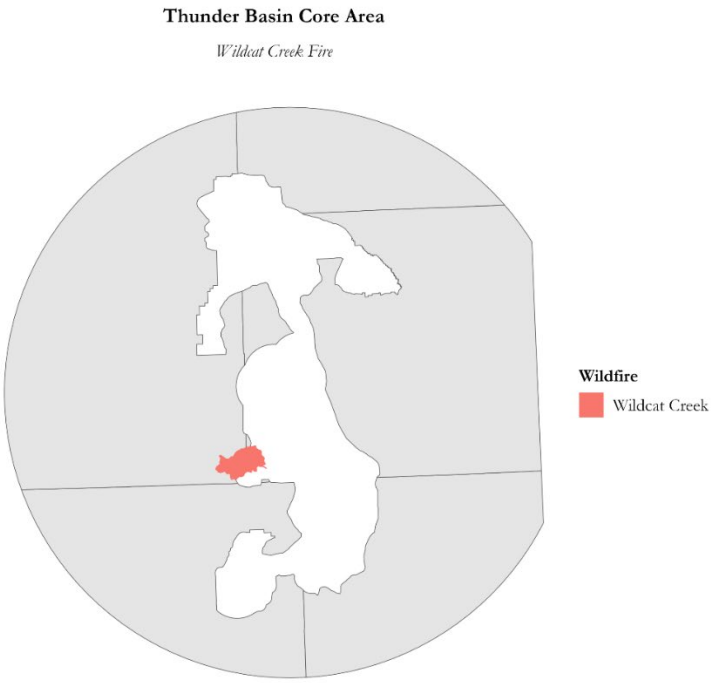


Figure 6: Thunder Basin Core Area and Wildcat Fire

Table 9: 2025 Funding Allocation of the Northeast Sage-Grouse Local Working Group

Project Title	Total Amount	Sage-grouse funds	Partners
Grouse-Mapper	$30,500	$16,500	Southwest LWG, DEQ-AML, Gage Cartographics, Tetra Tech, KAER LLC.
Monitoring Sage-grouse and Other Wildlife's Response to Fire Restoration Efforts in Northeastern Wyoming	$21,700	$16,700	BLM, Pheasants Forever, UW, WY-DEQ Abandoned Mine Lands, Various Landowners

Local Working Group Updates:

In 2025, the Local Working Groups (LWG) were in favor of minor changes to a few of the LWG and management area boundaries. These changes were approved internally by Wyoming Game and Fish Department (WGFD) and were implemented in 2025. The current map of the LWG boundaries reflects these changes. WGFD also uses the LWG boundaries as management areas for sage-grouse and as such they need to be describable boundaries. There were some areas where the LWG boundaries did not align with any describable features. One corner of the Northeast LWG was

trimmed and added to the Bighorn and Bates Hole/Shirley Basin LWGs. There were no leks that changed management areas.

Lek Monitoring:

Background

In the Northeast Local Working Group (NELWG), lek monitoring efforts increased substantially in 2000 due to concerns over range-wide declines in sage-grouse populations. Additionally, coalbed natural gas (CBNG) development in the Powder River Basin resulted in extensive survey work to meet federal permitting requirements. Surveys in relation to CBNG were extensive from roughly 2000-2008. The WGFD, Bureau of Land Management (BLM), U.S. Forest Service (USFS), private consultants, landowners and volunteers participate in annual lek monitoring. A significant portion of leks in northeast Wyoming are checked using a fixed-wing airplane. Many leks are on private land where access might be difficult to attain. Although aerial surveys are not as accurate as ground counts, sometimes this is the only available method to monitor leks in this part of the state. CBNG development tapered off around 2008, resulting in a continued reduction of lek monitoring work being completed by private consultants. Conventional oil wells have increased in some parts of this area resulting in an increase in monitoring in those areas. WGFD personnel have re-examined our annual coordination efforts with the goals of increasing lek monitoring consistency each year. Additionally, WGFD is putting forth effort to monitor undetermined and long-term inactive occupied leks. The goal is to collect sufficient data on these leks to ensure that the appropriate designated management status is being designated.

The 2025 lek season saw changes with federal agency guidance on partnering with WGFD to assist with lek monitoring. As a result of this guidance, local personnel with federal agencies were unable to assist with lek monitoring. In some cases, these leks have been monitored for years with federal partners which has contributed to strong observation numbers and more valuable data. WGFD has attempted to find other internal personnel to fill this void.

Results

Following the 2025 lek monitoring period, there were 613 documented leks in the NELWG. Of this total, 336 (55%) were occupied. The number of occupied leks that were checked (surveyed or counted) was 275, and of those, 145 (24%) were active during the 2025 breeding season.

The number of known occupied leks checked by lek counts and lek surveys was 275 leks, or 82% of the known, occupied leks. The number of occupied leks checked peaked at 325 in 2017 within the preceding 10-year reporting period. Monitoring effort has since fluctuated, but has declined overall.

Northeast Wyoming has one of the lowest average males lek attendance rates in the state, averaging only 13 males per active lek in 2025 compared to the statewide average of 31 males per active lek. Most leks in northeast Wyoming are small, with less than 20 males. In years when sage-grouse are at the apex of their population cycle, less than 10% of the active leks have greater than 50 males. Two leks exceeded 50 males in 2025. No lek has exceeded 100 males since 2007. This is important because regular population fluctuation presents small leks with a greater risk of becoming inactive in poor years and greater difficulty rebounding in productive years.

Average male lek attendance in northeast Wyoming has decreased significantly over time, decreasing by more than half over the last 30 years. Apart from the 2006 peak, subsequent peaks in the average

male lek attendance are usually lower, or similar, to previous peaks. Likewise, periodic lows in the average male attendance are generally lower, or similar, to the previous low. The long- term trend suggests a steadily declining population. This concern is confounded by the decreasing number of occupied leks, despite new leks still being discovered.

Production:

Composition of the harvest, as determined by analysis of wings deposited by hunters in wing barrels, can provide insight into current year's chick production. Although there are other areas in the state that garner considerable data from wing barrels, we do not have that information for northeast Wyoming. In past years a limited number of sage-grouse wings were collected during the hunting season, primarily in the eastern portion of the area. Sample sizes were small due to the low harvest and the difficulty in strategically placing enough collection barrels along the many roads and highways within the area. These reasons, combined with season closures in this area, mean that we do not have production information for the NELWG.

Harvest:

The NELWG is comprised of Hunt Area 4 and portions of Hunt Areas 1 and 2 (**Figure 3**). Hunt Area 2 is closed to hunting. In past years, Hunt Area 4 has had a very conservative season, however 2023 was the first year in which this area was designated as a closed area. WGFD did not take this decision lightly. It is important to note that hunting is not the cause of decline in sage-grouse in this part of the state. It is not anticipated that the closure will result in rebounding bird numbers in the NELWG. Many factors were considered and input received before this decision was recommended.

Although WGFD does not have control over the factors that are adversely affecting sage-grouse, we do have the ability to limit harvest. Hunting is an additive source of mortality for populations with less than 300 sage-grouse (<100 males attending leks) (Connelly et al. 2000). No individual lek visits have reached 100 males since 2007 in the NELWG. Additionally, this area of the state is on the fringe of sage-grouse habitat. As such, this contributes to fragmented and isolated subpopulations of sage-grouse. Genetic connectivity between subpopulations is not well understood but research has shown there is little genetic exchange between Management Zone I (NEWY) and Management Zone II populations (rest of WY) (Row et al. 2018). WGFD recognizes that sage-grouse populations in the NELWG may play a smaller role in terms of Wyoming population persistence, yet it may be critical to maintaining genetic connectivity between the Wyoming Basin populations and those of North Dakota, South Dakota, and Montana (Cross et al. 2018, Row et al. 2018). Every attempt should be made to keep these small groups of birds intact.

It should be noted that most of the NELWG is closed to sage-grouse hunting except for a small piece of Hunt Area 1 which falls within the boundary. The alignment of the hunt area boundaries with the local working group/management area boundaries will provide clarity going forward.

Habitat:

Most occupied habitat for sage-grouse in the NELWG is held in private ownership. Approximately 75 percent of known leks are found on private land with the remaining 25 percent found on BLM, USFS, and State-owned lands. Because most sage-grouse are found on private land in the NELWG, little direct control exists to protect important habitats including breeding, nesting, brood rearing, and major wintering areas.

The primary economic uses of land currently, and historically, providing sage-grouse habitat are agriculture and energy. Livestock grazing, mainly cattle along with some sheep production, is the primary agriculture use. Some crop production occurs as irrigated and dry land hay and some small grains. Historically, large parcels of sagebrush habitat were converted either to grasslands or crops. Limitations of remote sensing technology have prevented quantifying and mapping these conversions.

Oil and natural gas production has occurred in much of the area since the early 20th century. Oil production has remained a constant with cycles of increased and decreased activity. An unprecedented energy boom began in the Powder River Basin in the late 1990's with the exploration and development of coal bed natural gas (CBNG) reserves. Although much of the active CBNG extraction has ceased, there are still wells, roads, power lines and other structures on the landscape that are relics of the development. Deep well oil and gas development has increased in recent years with new technologies enabling horizontal and directional drilling. In addition to oil and gas development, vast coal reserves continue to be developed with surface pit mines in eastern Campbell County and northern Converse County.

Considerable debate has occurred on the effects of energy development on sage-grouse. Peer reviewed research findings show significant impacts (Walker et al. 2007a, Doherty et al. 2008, Doherty et al. 2010, Harju et al. 2010 and others). These findings have yet to be accepted by some and this has contributed to uncertainty in the public and political arenas as to the real effects of energy development. Furthermore, many continue to blame predation or harvest for sage-grouse population declines, which have much lower long-term population impacts than habitat fragmentation, direct loss, and indirect loss. A population viability analysis by Taylor et al. (2012) found that energy development had the greatest influence on male grouse lek attendance within 12.4 miles of a lek. At eight wells per section (80 acre spacing), only 39% of males persisted while the number of large leks significantly decreased (Taylor et al. 2012).

More recent research provides further insight into sage-grouse and development. Karol and Fedy (2023) found that hens that successfully raised chicks demonstrated a strong avoidance of overhead power line corridors (~1/4 mile on each side of the line) and man-made reservoirs. It was also found that successful brooding females were spending most of their time in sagebrush cover and not using disturbed surfaces, such as roads, and reclaimed surfaces, such as pipeline corridors. Older and more experienced brood-rearing hens showed stronger avoidance of infrastructure and converted surfaces than first-year hens.

The growing season of 2025 experienced moderate moisture levels throughout much of the NELWG. Cheatgrass continues to thrive in the Powder River Basin, competing with native grasses and forbs in sagebrush understory. Anecdotally 2025 seemed to be an exceptional year for robust cheatgrass growth in many areas. The increased wildfire risk due to cheatgrass invasion is being realized, with several fires having occurred in the preceding years, some within sage-grouse core and connectivity areas. Sagebrush restoration has not occurred following some of these fires due to lack of interest from private landowners. Invasive species management following fires has occurred on some, but not all recent burns.

Fires and Restoration Efforts

Of utmost significance for this reporting period are the wildfires that occurred with the NELWG in 2024. Although there were multiple fires totaling around 400,000 acres being burned, not all of this was in sage-grouse habitat. The most notable fires in relation to sage-grouse were the House Draw

fire (~175,000 acres total) and the Wildcat Creek fire (~19,000 acres). Both fires occurred within core areas.

Around 114,000 acres (32%) in the Buffalo Core Area were burned in the House Draw fire alone, affecting 12 active leks and associated nesting and wintering areas. Aside from the loss of sagebrush in a core area, other suitable sage-grouse habitat also burned. Not only was there the loss of habitat in this area, but losing this swath of sagebrush will also impact the connectivity to the leks both north and south of this burned area.

The impacts to the sage-grouse in this area cannot be understated. It is estimated that 85% of the sagebrush in the fire perimeter burned. It has been shown that Wyoming Big Sagebrush recovery, post-fire, is extremely slow. Historic fires in southeast Montana (a comparable ecoregion) that were investigated in subsequent post-fire years indicate that it can take up to 100 years for sagebrush to reach pre-burn canopy cover (Cooper, 2011).

Table 8 shows a summary of number of acres affected in core, connectivity, and proposed stewardship areas. **Figures 4**, **5 and 6** show fire perimeters in relation to sage-grouse core areas.

In the winter of 2024-2025, a large effort was undertaken to establish sagebrush by spreading seed aerially. WGFD personnel were aware that this was being done in Nevada, and although it had not been done in Wyoming it had potential as a viable method to assist with establishing sagebrush. WGFD approached the Johnson County Natural Habitat Restoration Team. Members of this team were fully on board and through a large collaborative effort, aerially seeded sagebrush in January of 2025. Due to competition with native perennial grasses, it has been shown that success of establishing sagebrush is higher with aerially seeding as soon as possible post-fire, which is why this project happened so quickly after the fire. A great deal of analysis occurred to identify the ideal locations for sagebrush seeding. Many factors were considered, including sage-grouse nesting habitat, burn severity, northeast facing aspects, cheatgrass density, and whether sagebrush was present before the fire. Monitoring in the summer of 2025 indicated that in some areas, sagebrush seedlings were present. Future monitoring will provide more insight as to whether this method is an effective way of establishing sagebrush in a post-fire landscape. Around 1,800 acres of sagebrush was seeded aerially with this project.

Disease:

West Nile Virus did not seem to be a factor in 2025 for livestock according to the Wyoming State Vet Lab. Because of the difficulty in monitoring WNv in sage-grouse, human and livestock cases can provide an indication of WNv prevalence each year. (Wyoming State Vet Lab, **https://www.uwyo.edu/wyovet/index.html**). Taylor et al. (2012) predicted that the low elevation population of northeast Wyoming is susceptible to WNv outbreaks that can decrease a population by more than 50%. With no additional energy development, the authors predicted that one outbreak year could result in the extirpation of some local populations due to the small lek sizes in the area (Taylor et al. 2012).

A highly pathogenic form of avian influenza (HPAI) was only documented in a wild turkey in Sheridan County in 2024. This is down from a few cases reported in wild birds in 2023. Although no sage-grouse were documented having contracted this disease, it is unknown how this disease may affect sage-grouse, although it is of concern and should continue to be closely monitored in subsequent years.

Conservation Planning:

In 2025, the NELWG allocated $16,500 to the Grouse Mapper. This web-based habitat assessment platform should be completed in 2026. The NELWG also allocated $16,700 to fund "Monitoring Sage-grouse and Other Wildlife's Response to Fire Restoration Efforts in Northeastern Wyoming". While the first year of monitoring is complete. a full report on the teams' findings will be available at a later date. **Table 8** illustrates how these funds were allocated.

Management Recommendations:

Post-Fire Habitat Management

Efforts should be continued to restore habitat in burned areas. The concern of invasive annual grasses and wildfire frequencies in sagebrush habitats is an immediate threat to the long-term viability of sage-grouse habitats in the NELWG. We need to figure out how to effectively treat cheatgrass in viable sagebrush habitats at a large scale. This is vital for the long-term viability of sagebrush habitats in northeast Wyoming. Often sagebrush plantings cannot be done at scale to make up for what is lost after wildfires, and private landowner interest in such plantings is often low. Thus, proactive efforts must take place to control high levels of cheatgrass infestation in key sage-grouse habitats to reduce the frequency and severity of wildfires and to preserve existing sagebrush habitat. This will require managers to find ways to engage with landowners on a massive scale. Additionally, work to improve brood-rearing habitats may help address low chick recruitment rates reported (Kirol 2021).

Conifer encroachment, particularly juniper, is an increasing threat to sage-grouse habitat in NE Wyoming, particularly in portions of the Thunder Basin, Natrona, and North Gillette Core Areas. Conifer encroachment reduces available habitat to sage-grouse through predator avoidance. Identifying areas of sage-grouse habitat threatened by conifer encroachment that could benefit from removal is key to addressing this threat. During the summer of 2023, WGFD partnered with University of Nebraska-Lincoln to put on a conifer encroachment workshop in Gillette, Wyoming. The purpose of the workshop was to discuss the woody encroachment problem in the Northern Great Plains and to introduce a spatial tool that could be used to identify encroachment areas in eastern Wyoming.

There are also many different opportunities to reclaim or mitigate existing infrastructure that is currently on the landscape that is limiting sage-grouse habitat, such as energy infrastructure. Efforts should focus on locating opportunities where overhead powerlines, and other energy infrastructure, can be removed and/or mitigated (i.e., locating power lines underground) in key sage-grouse habitats. Other potential projects include reclaiming defunct livestock stock dams and cropland/pasture reclamation to native rangeland where possible. Areas of important habitat to sage-grouse should be evaluated for the potential to exercise these reclamation activities.

Mesic draws have been identified as a critical and often overlooked component of habitat. A mesic habitat restoration workshop was hosted by Pheasants Forever in the fall of 2023. Focusing on mesic restoration could be a relatively simple and cost-effective method of gaining critical habitat for sage-grouse, particularly in brood-rearing habitat.

Recommendations:

1. Utilize the prioritization tool on areas in the House Draw fire to continue the reclamation process.

2. Annually monitor 80% of the occupied leks in the NELWG.

3. Continue WNv monitoring.

4. Use any additional flight money for lek searches and surveys. Check all leks at least once every three years. All leks should be recorded in UTMs (NAD 83) using GPS.

5. Review the sage-grouse database to eliminate leks without adequate documentation to support a lek designation.

6. Additional effort is needed to document the status of undetermined leks. Encourage reporting of lek activity from the public and landowners.

7. Better document wintering sage-grouse locations and develop a seasonal range map for sage-grouse for the NELWG.

8. Continue to map lek perimeters to ensure adequate buffer distance in protecting leks.

Literature Cited:

Cooper, Stephen V.; Lesica, Peter; and Kudray, Greg M. (2011) "Post-fire Recovery of Wyoming Big Sagebrush Steppe in Central and Southeast Montana," Natural Resources and Environmental Issues: Vol. 16, Article 12. Available at: https://digitalcommons.usu.edu/nrei/vol16/iss1/12

Doherty, K. E. 2008. Sage-grouse and Energy Development: Integrating Science with Conservation Planning to Reduce Impacts. Ph.D. Dissertation. Fish and Wildlife Biology, University of Montana. 125 pp.

Doherty, K. E, D. E. Naugle and J. S. Evans. 2010. A currency for offsetting energy development impacts: horse trading sage-grouse on the open market. PLoS ONE 5(4):e10339.

Harju, S.M., M.R. Dzialak, R.C. Taylor, L.D. Hayden-Wing, and J.B. Winstead. 2010. Thresholds and Time Lags in Effects of Energy Development on Greater Sage- Grouse Populations. Journal of Wildlife Management 74:437- 448.

Kirol, C. P. 2021. Patterns of nest survival, movement, and habitat use of sagebrush-obligate birds in an energy development landscape. Thesis presented to the University of Waterloo. **https://uwspace.uwaterloo.ca/handle/10012/16844. Accessed December 2021**.

Kirol, C.P. and Fedy, B. 2023. Using individual-based habitat selection analyses to understand the nuances of habitat use in an anthropogenic landscape: a case study using greater sage-grouse trying to raise young in an oil and gas field. Wildlife Biology: e01111

Taylor, R. L., D. E. Naugle, and L. Scott Mills. 2012. Viability analyses for conservation of sage- grouse populations: Buffalo Field Office, Wyoming Final Report 27 February 2012. BLM Contract 09-3225-0012 Number G09AC00013 (8/10/10). University of Montana, Missoula**.**

Taylor, R. L., B. L. Walker, D. E. Naugle, and L. Scott Mills. 2012. Managing multiple vital rates to maximize greater sage-grouse population growth. Journal of Wildlife Management 76:336- 347.

Walker, B. L., D. E. Naugle, and K. E. Doherty. 2007a. Greater sage-grouse population response to energy development and habitat loss. Journal of Wildlife Management 71:2644- 2654.

South Central

Job Completion Report

Prepared By: Teal Cufaude, Saratoga Wildlife Biologist

Period Covered: 1-1-2025 to 12-31-2025

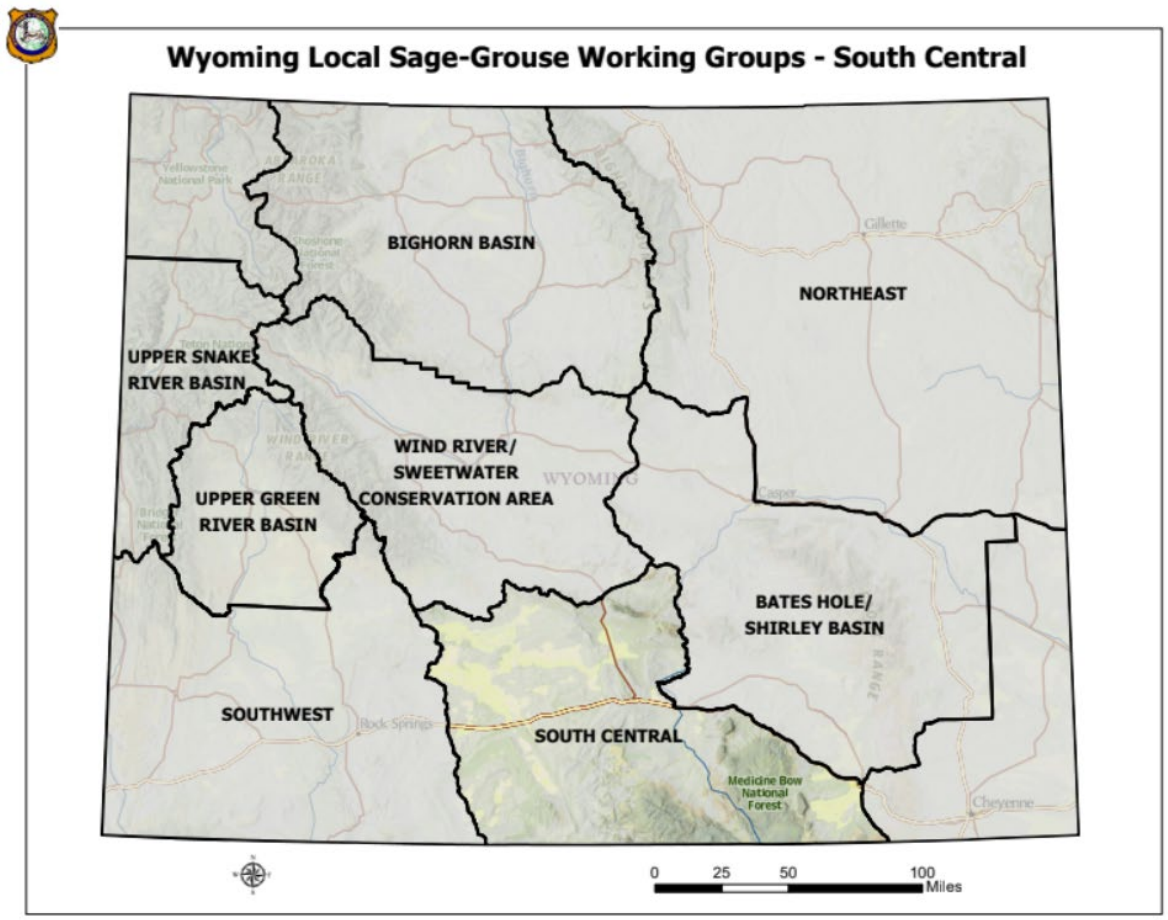


Table 1: Sage-Grouse Lek Characteristics

Group		N	Percent
BLM Office			
	Casper	2	0.5%
	Lander	29	6.9%
	Rawlins	370	88.3%
	Rock Springs	18	4.3%
Biologist			
	Baggs	132	31.5%
	Green River	14	3.3%
	Lander	18	4.3%
	Laramie	5	1.2%
	Saratoga	55	13.1%
	Sinclair	195	46.5%
Classification			
	Occupied	259	61.8%
	Undetermined	42	10%
	Unoccupied	118	28.2%
County			
	Albany	5	1.2%
	Carbon	277	66.1%
	Fremont	16	3.8%
	Natrona	2	0.5%
	Sweetwater	119	28.4%

Group		N	Percent
Land Status			
	BLM	235	56.1%
	LocalGov	1	0.2%
	Private	151	36%
	State	31	7.4%
	USFWS	1	0.2%
Lek Status			
	Active	179	42.7%
	Inactive	160	38.2%
	Unknown	80	19.1%
Management Area			
	H	419	100%
Region			
	Green River	145	34.6%
	Lander	214	51.1%
	Laramie	60	14.3%
Warden			
	Baggs	131	31.3%
	East Rawlins	106	25.3%
	Elk Mountain	6	1.4%
	Lander	2	0.5%
	Rock Springs	14	3.3%
	Saratoga	49	11.7%
	South Laramie	5	1.2%
	West Rawlins	106	25.3%

Table 2: Leks Counted

Year	Occupied	Counted	Percent Counted	Peak Males	Average Peak Males
2016	286	73	25.5%	2,381	39.0
2017	286	96	33.6%	2,176	29.4
2018	285	113	39.6%	2,210	24.6
2019	278	131	47.1%	2,419	22.0
2020	272	146	53.7%	2,584	22.7
2021	272	91	33.5%	1,604	21.7
2022	267	82	30.7%	1,470	23.0
2023	262	20	7.6%	344	26.5
2024	270	107	39.6%	3,029	36.1
2025	267	102	38.2%	3,165	40.6

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 3: Leks Surveyed

Year	Occupied	Surveyed	Percent Surveyed	Peak Males	Average Peak Males
2016	286	192	67.1%	3,707	28.1
2017	286	162	56.6%	2,465	22.6
2018	285	153	53.7%	1,961	20.9
2019	278	127	45.7%	1,092	16.8
2020	272	101	37.1%	875	18.6
2021	272	160	58.8%	1,285	15.7
2022	267	150	56.2%	1,668	19.6
2023	262	189	72.1%	2,597	21.6
2024	270	147	54.4%	2,080	21.4
2025	267	156	58.4%	2,108	24.0

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 4: Leks Checked

Year	Occupied	Checked	Percent Checked	Peak Males	Average Peak Males
2016	286	265	92.7%	6,088	31.5
2017	286	258	90.2%	4,641	25.4
2018	285	266	93.3%	4,171	22.7
2019	278	258	92.8%	3,511	20.1
2020	272	247	90.8%	3,459	21.5
2021	272	251	92.3%	2,889	18.5
2022	267	232	86.9%	3,138	21.1
2023	262	209	79.8%	2,941	22.1
2024	270	254	94.1%	5,109	28.2
2025	267	258	96.6%	5,273	31.8

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 5: Lek Status of Leks Checked

Year	Active	Inactive	Unknown	Known Status	% Active	% Inactive
2016	198	54	13	252	78.6%	21.4%
2017	188	55	15	243	77.4%	22.6%
2018	192	53	21	245	78.4%	21.6%
2019	190	48	20	238	79.8%	20.2%
2020	172	68	7	240	71.7%	28.3%
2021	172	64	15	236	72.9%	27.1%
2022	163	45	24	208	78.4%	21.6%
2023	144	15	50	159	90.6%	9.4%
2024	191	42	21	233	82%	18%
2025	176	48	34	224	78.6%	21.4%

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Inactive - Confirmed no birds/sign present (see official definitions)

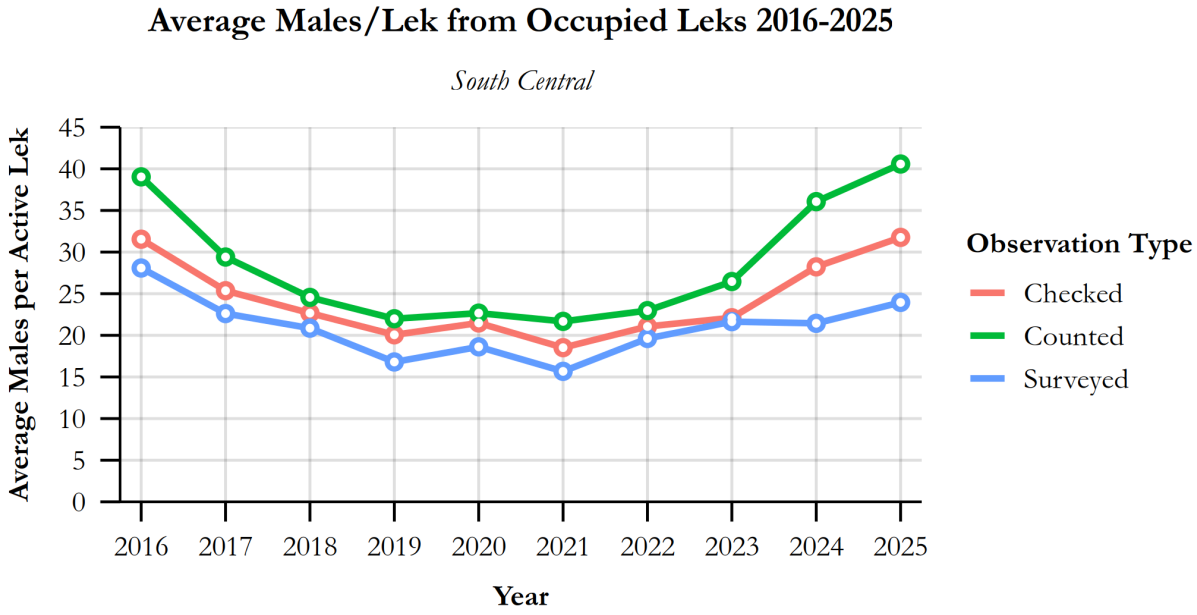


Figure 1: Average Peak Males

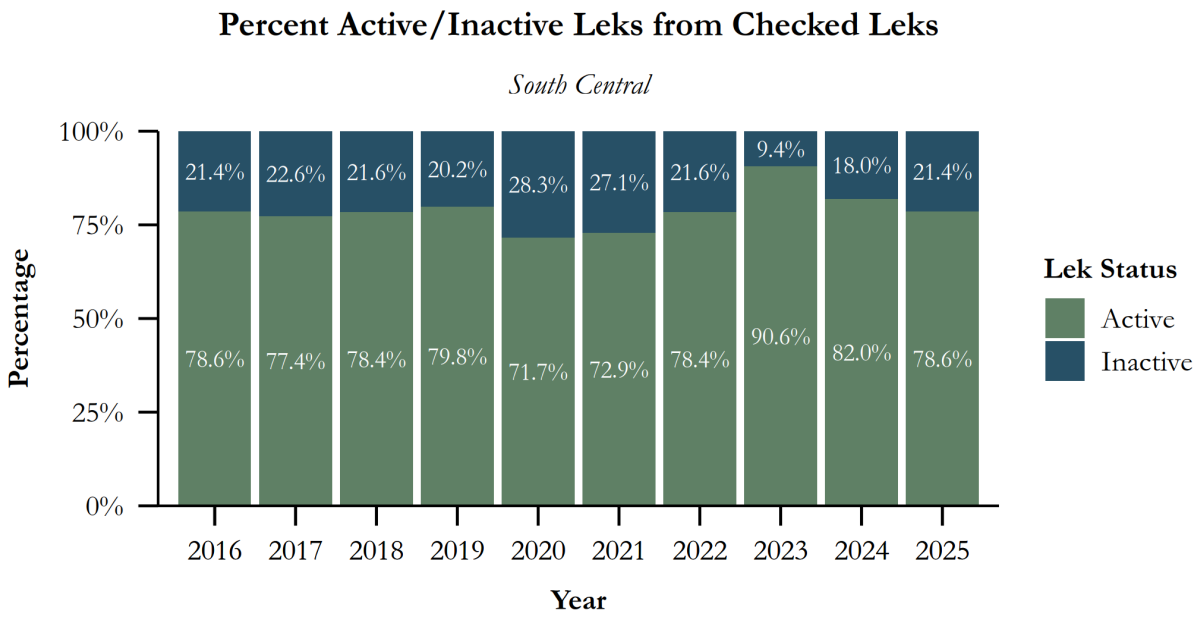


Figure 2: Lek Status

Table 6: Hunting Seasons

Year	Season Start	Season End	Length	Bag/Possession Limit
2016	Sep-17	Sep-30	14	2/4
2017	Sep-16	Sep-30	15	2/4
2018	Sep-15	Sep-30	16	2/4
2019	Sep-21	Sep-30	10	2/4
2020	Sep-19	Sep-30	12	2/4
2021	Sep-18	Sep-30	13	2/4
2022	Sep-17	Sep-30	14	2/4
2023	Sep-16	Sep-30	15	2/4
2024	Sep-21	Sep-30	10	2/4
2025	Sep-20	Sep-30	11	2/4

Table 7: Harvest Totals

Year	Harvest	Hunters	Days	Birds/Day	Birds/Hunter	Days/Hunter
2016	911	477	1,162	0.8	1.9	2.4
2017	501	363	846	0.6	1.4	2.3
2018	903	500	1,245	0.7	1.8	2.5
2019	1,052	584	1,186	0.9	1.8	2.0
2020	1,023	465	1,250	0.8	2.2	2.7
2021	1,080	691	2,178	0.5	1.6	3.2
2022	1,510	983	2,564	0.6	1.5	2.6
2023	1,882	820	2,255	0.8	2.3	2.8
2024	865	495	1,154	0.7	1.7	2.3
2025	781	551	1,161	0.7	1.4	2.1
Average	**1,051**	**593**	**1,500**	**0.7**	**1.8**	**2.5**

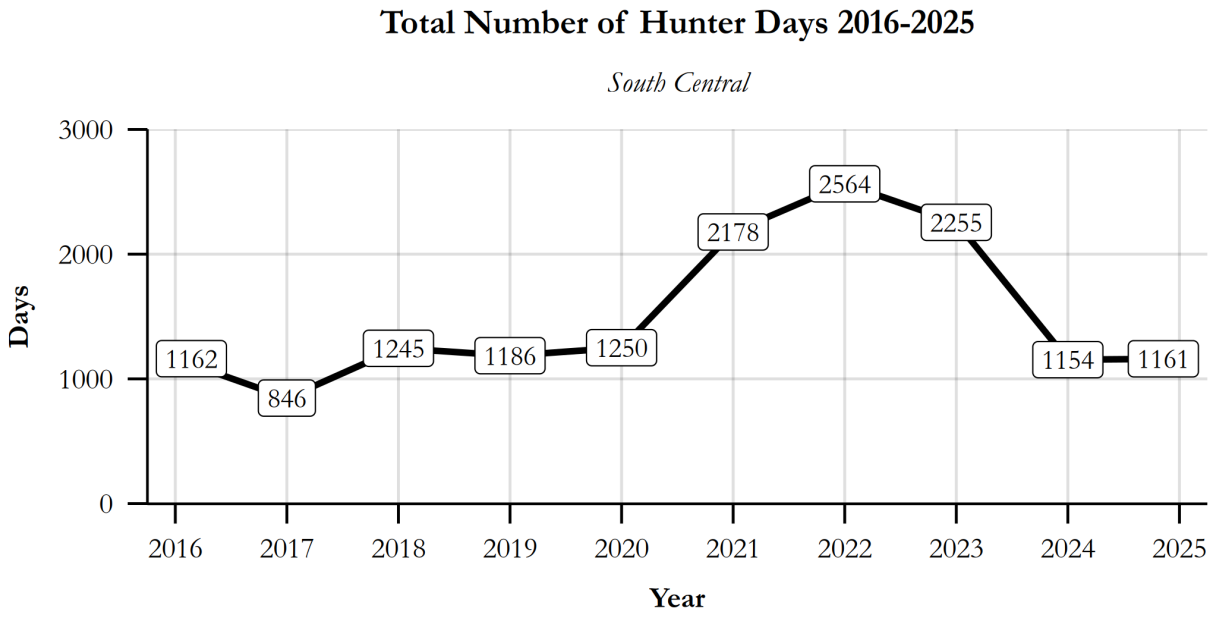


Figure 3: Harvest Days

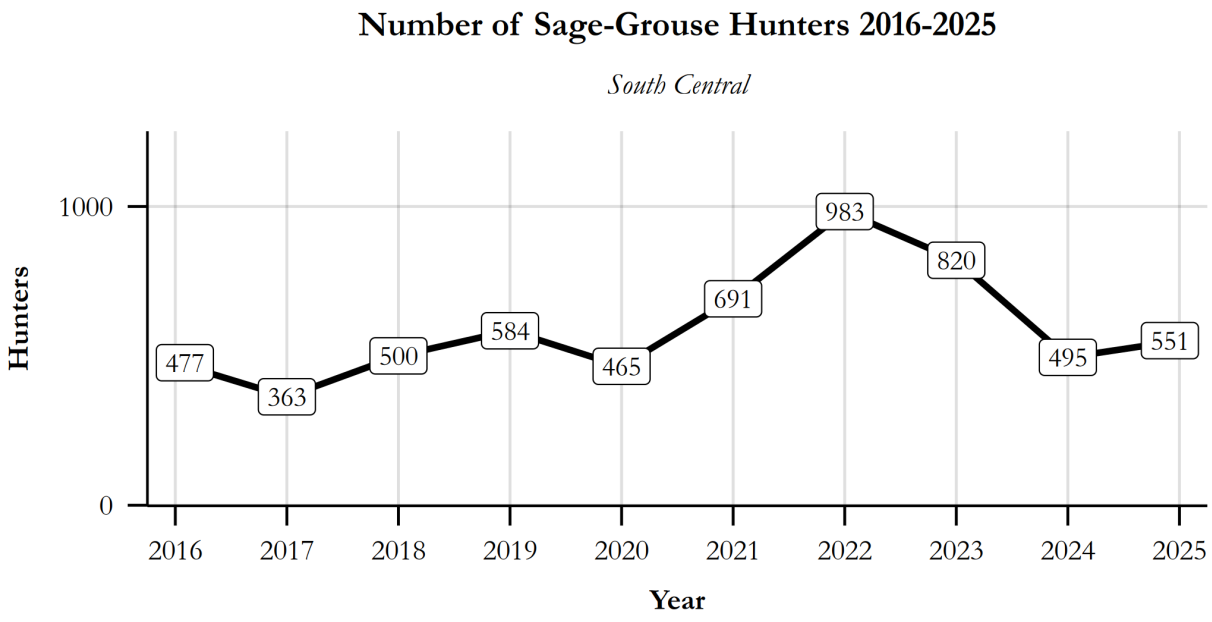


Figure 4: Hunters

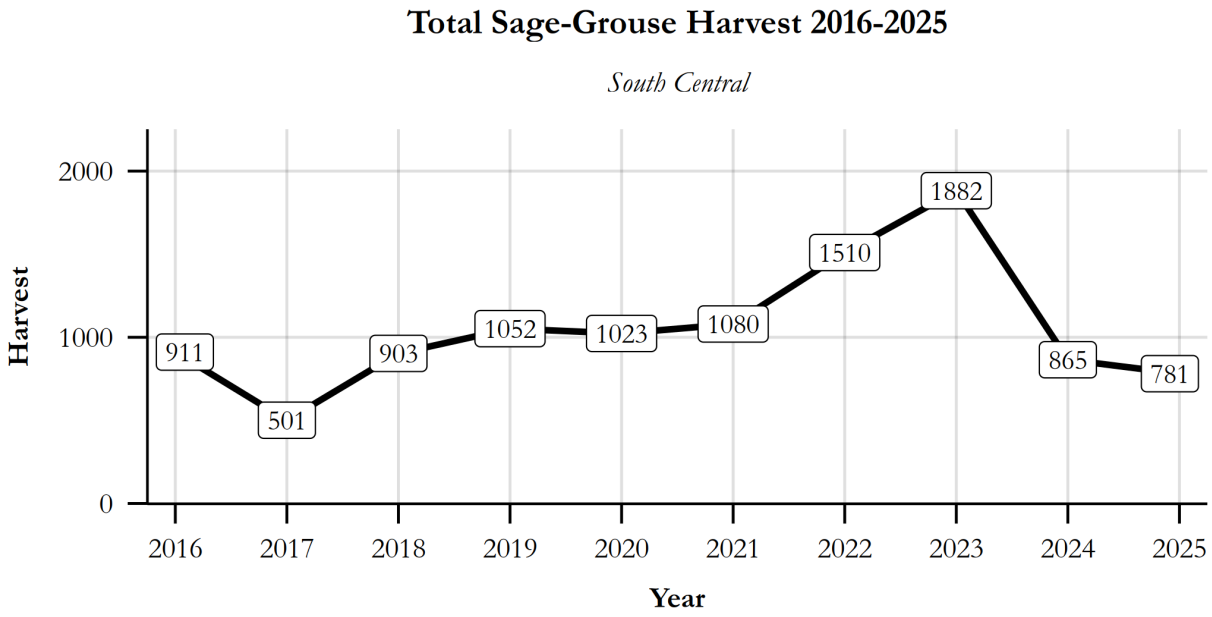


Figure 5: Total Harvest

Table 8: Harvest Composition

		Percent Adult		Percent Yearling		Percent Chick		
Year	Sample Size	Male	Female	Male	Female	Male	Female	Chicks/Hens
2016	174	21.8%	27%	4%	5.7%	16.1%	25.3%	1.3
2017	123	13.8%	39.8%	5.7%	8.9%	16.3%	15.4%	0.7
2018	131	20.6%	26.7%	6.1%	8.4%	20.6%	17.6%	1.1
2019	196	13.8%	25%	6.6%	9.7%	13.8%	31.1%	1.3
2020	258	11.6%	27.1%	5.8%	16.7%	13.2%	25.6%	0.9
2021	201	10%	26.4%	4.5%	12.4%	23.9%	22.9%	1.2
2022	257	7.8%	17.5%	5.4%	9.3%	26.1%	33.5%	2.2
2023	371	7.5%	17.3%	8.6%	13.7%	20.2%	32.3%	1.7
2024	303	13.9%	22.1%	5.3%	15.2%	19.8%	23.8%	1.2
2025	210	21%	33.3%	6.7%	8.1%	12.9%	18.1%	0.7

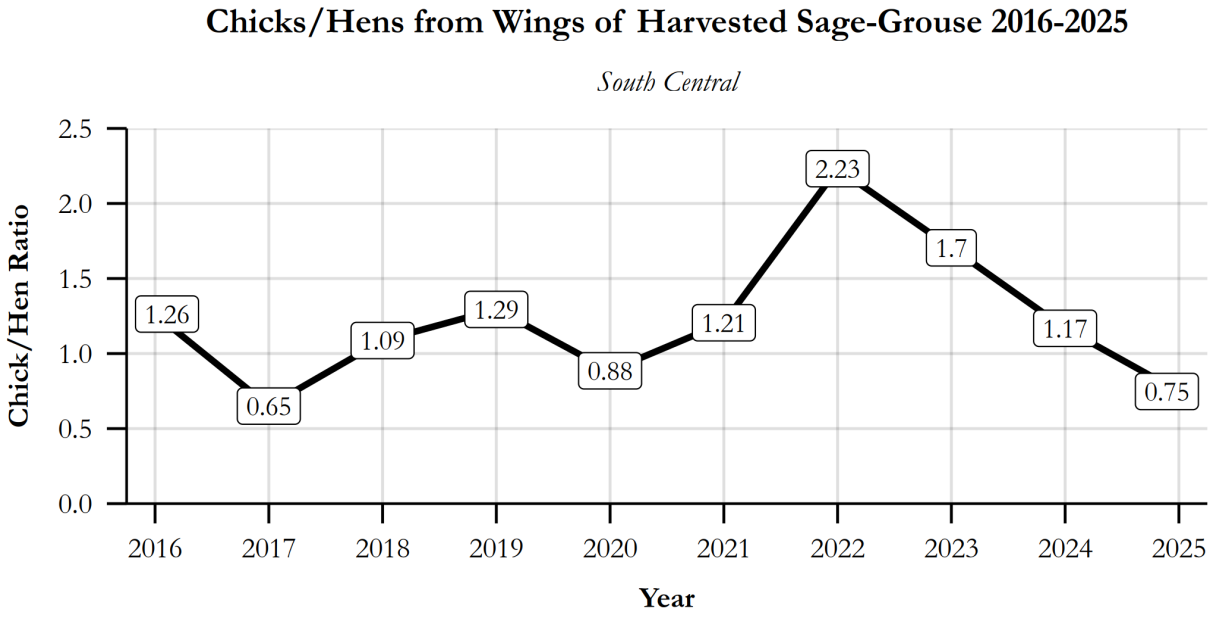


Figure 6: Chick/Hen Ratio

Lek Monitoring:

In 2025, 419 sage-grouse leks were known to occur in the South-Central Conservation Area (SCCA). In the SCCA, the majority of known leks (56%) occur on Bureau of Land Management (BLM) managed lands and 36% occur on private lands (**Table 1**).

During the 2025 lekking season, Wyoming Game and Fish Department (WGFD), United States Forest Service (USFS) personnel, environmental consultants, and volunteers monitored 258 leks. This effort represented checking 97% of the occupied status leks, exceeding the 10-year average percentage. The increased effort was due to environmental conditions being favorable to ground visits to leks throughout the lekking season and availability of funding to conduct aerial lek surveys.

Sage-grouse populations in Wyoming cycle on approximately 9-10 years (Prochazka et al. 2023). **Figure 1** illustrates the trends in average peak males per lek for SCCA from 2016-2025. The 2025 average peak males per lek, based on all occupied lek observations, was the highest recorded since the last cyclical peak in 2016.

A total of 102 leks were *counted* in the SCCA, resulting in an average of 40.6 males per lek (**Table 2**). A total of 156 leks were *surveyed* resulting in an average of 24 males per lek (**Table 3**). Across the SCCA, more leks were monitored with *survey* protocol and fewer were monitored with *count* protocol. To evaluate long-term population trends, average lek *survey* and *count* data are combined because long-term data sets from Wyoming indicate similar trends from both *counts* and *surveys*. In 2025, the peak male lek attendance within the SCCA totaled 5,273 males (**Table 4**). The average number of male sage-grouse on *counted* leks increased from 36.1 in 2024 to 40.6 in 2025. The average number of male sage-grouse on *surveyed* leks increased from 21.4 in 2024 to 24 in 2025 (**Figure 2**).

The proportion of occupied leks which were considered inactive increased from 18% in 2024 to 24% in 2025 (**Table 5**). The percentage of inactive status leks was similar to the 10-year average for the SCCA. During an upswing in the sage-grouse population, we expect a decrease in the number of inactive leks.

In the Saratoga Biologist District, an aerial lek surveys were conducted in April 2025 to monitor 15 known lek locations and search for new leks. No new leks were discovered during this aerial survey effort. Across the Saratoga Biologist District, we attempted to verify the status of several miscellaneous strutting grounds that were detected in 2024. Fewer miscellaneous strutting grounds found in 2025 suggested that lek attendance was similar to previous years. Strutting grounds will require more checks in 2026 to verify whether they will be considered leks.

Across the Baggs Biologist District, male lek attendance on *surveyed* leks improved and decreased on *counted* leks in 2025. On some leks, male lek attendance improved dramatically in 2024 compared to previous years. Once again, for 2025, in higher elevations east of Highway 789, main leks were "full" and we continued to observe grouse at the "new" or "in between" leks that were initially observed in 2024. West of Highway 789, occupied leks still had good attendance, but, contrary to higher elevations, "in between" leks were not observed and leks with no or few birds prior to this year did not show improvements.

No reliable method for estimating the sage-grouse population for the SCCA exists at this time, however the number of males per lek provides a reasonable index of abundance of the population over time. The increase in the average males per lek, increase in peak male lek attendance, and similar inactive status leks (compared to 10-year average) indicated a stable to increasing sage-grouse

population across the SCCA in 2025. Given the typical population cycle of sage-grouse and what we assume was the observed "peak" male lek attendance in 2025, we expect to see a decrease in lek attendance in 2026.

Harvest:

The 2025 sage-grouse hunting season was from 20 September to 30 September (11 days) and allowed for the harvest of two sage-grouse per day and four in possession (**Table 6**).

A new Sage-Grouse Permit was implemented in 2024 to obtain better harvest information from sage-grouse hunters (**Figure 4**, **Figure 5**, and **Figure 6**). The 2025 sage-grouse hunter survey estimated 551 hunters spent 1,161 days to harvest 781 sage-grouse in the SCCA. The average number of birds harvested per hunter day was 0.7. The average number of sage-grouse harvested per hunter was 1.4 and the average number of days hunted was 2.1 (**Table 7**).

Production:

Hunter-harvested sage-grouse wings are collected annually to estimate productivity. Wings are gathered and aged/sexed by molt patterns, and the resulting chicks per hen ratio is calculated as a measure of productivity. While there are biases associated with the hunter selectivity of different age/sex groups of sage-grouse, trends still provide yearly comparisons of relative chick production.

During the 2025 hunting season, WGFD collected 210 wings from wing barrels within the SCCA, which was 27% of the estimated harvest of 781 birds. Age and sex composition of the wings indicated the proportion of chicks per hen decreased from 1.2 in 2024 to 0.7 in 2025 (**Table 8**).

Statewide analyses of wing data from harvested sage-grouse have suggested chick per hen ratios of 1.4-1.7 typically results in relatively stable populations as determined by lek monitoring the following year. Over the last 10 years, estimated productivity from wing barrel data has fluctuated between 0.7 and 2.2 chicks per hen within SCCA (**Figure 6**). Only three years (2015, 2022, and 2023) showed chick/hen ratios within the "stable" range. Ratios in all other years within the past 10 years have indicated declining populations even when populations have appeared to stabilize and even increase.

Habitat:

Sage-grouse habitat within the SCCA consists of relatively intact sagebrush communities. The health of these communities is largely driven by the amount and timing of annual precipitation. Much of the sagebrush habitat in the SSCA is trending towards older, decadent age classes. While mature sagebrush stands are important to sage-grouse for both forage and cover, a monoculture of older and decadent stands may lead to lower nutrient content. The quantity and quality of grass and forb production, which have been linked to sage-grouse nest success and chick survival, is also influenced by the amount and timing of spring precipitation. Invasive annual grasses, mainly cheatgrass, continue to reduce native plant density and diversity throughout the SCCA.

Primary land use in the SCCA is livestock grazing and energy development. In the first half of the 20th century, much of the sage-grouse habitat in this area provided winter grazing for hundreds of thousands of both domestic sheep and cattle. Sheep numbers have since declined and cattle have become the primary species of livestock grazing. Improved grazing management on both public and private lands during the last few decades has generally led to improved habitat for sage-grouse and other sagebrush obligate species. Feral horses continue to inhabit the western and northern portions of the SCCA.

Energy development and mineral extraction continue to be a primary use of sage-grouse habitat within the SCCA, with a majority of the energy development focused on producing natural gas from both deep gas and coalbed methane sources. Large-scale wind farm developments have begun over the past few years in the northern part of the SCCA, introducing new challenges within sage-grouse habitat. Development of the Chokecherry/Sierra Madre Wind Energy Project continued throughout 2025. Past and present uranium mining has also contributed to reducing sage-grouse habitat in the SCCA. Energy development has, directly and indirectly, reduced the functionality of sage-grouse habitat in portions of the SCCA. The Interstate 80/Union Pacific Railroad transportation corridor bisects the SCCA east to west and is a major cause of habitat fragmentation. Continued urban/rural development within sagebrush communities also continues to fragment sage-grouse habitat.

The Mullen Fire started in September 2020 and burned approximately 176,800 acres. While the Mullen Fire was predominately on forested lands, firefighting efforts resulted in back burning of transitional shrub communities outside the forest. Over 10,300 acres were aerially treated with indaziflam (Rejuvra) on the National Forest to control cheatgrass on the western side of the Snowy Range in 2021. The initial treatment was very successful with managers seeing phenomenal recovery of native vegetation. Monitoring efforts in 2024 and 2025 documented several areas where cheatgrass cover is increasing, highlighting the need for a retreatment.

Weather: January – December 2025

Precipitation during the 2025 growing season (April – June) was below the 30-year average. While some precipitation occurred in April and May, very little precipitation occurred in the month of June. Limited precipitation during the growing season resulted in reduced productivity of forage species. Much of the herbaceous vegetation senesced earlier in the year than normal. Forbs are an extremely important part of the sage-grouse diet in the spring and throughout the summer, especially for juveniles. Although grasses do not make up a significant part of the sage-grouse diet, good grass production provides better hiding cover from predators. As such, low vegetation production in 2025 could have impacts to sage-grouse nutrition and survival over the next year. Through fall and early winter 2025, conditions remained mild, with little to no snow accumulation.

Land managers continue to plan and implement habitat projects including cheatgrass control, sagebrush mowing, juniper removal, and wet meadow restoration within the SCCA to improve sage-grouse habitat. To mitigate habitat issues related to cheatgrass in sage-grouse habitats, aerial herbicide treatments continue to be conducted throughout the SCCA. This effort continues through existing collaborations between the Department, the Little Snake River Conservation District, Carbon County Weed and Pest, WWNRT, BLM, USFS, NRCS, South Central Local Working Group, and private landowners. In the coming years, we plan to focus efforts on low-tech process-based restoration techniques to restore wet meadows within important sage-grouse habitats. Low-tech structures, such as zeedyks, can re-connect floodplains and increase the quality and quantity of brood-rearing habitat.

Disease:

There were no cases of West Nile Virus in sage-grouse, or other diseases detrimental to sage-grouse documented within the SCCA in 2025.

Conservation Planning:

The South Central Local Working Group (SCLWG) held one meeting during this reporting period. Projects that received support from SCLWG during this reporting period included:

1. Red Rim Daley Wet Meadow Restoration
2. Revisiting the Atlantic Rim Project Area one decade later
3. Free-Roaming Horse Micro-Habitat Impacts to Sage-Grouse Nest and Brood Survival
4. Jungle Well Development

Management Recommendations:

1. Continue to monitor a minimum of 80% of the occupied leks in the SCCA.

2. Update all lek observers on WGFD monitoring protocols, and familiarize them with standardized datasheets.

3. Expand lek searches to ensure all active leks within the SCCA have been identified.

4. Seek out opportunities to increase flight money for lek searches and surveys in hard to access portions of the SCCA.

5. Support WGFD and BLM efforts to address mitigation and reclamation issues.

6. Support research efforts to identify seasonal habitats, especially winter concentration habitat.

7. Coordinate with BLM and USFS to ensure development and habitat treatments in sage-grouse core area comply with WY-EO-2019-3.

8. Continue to build partnerships with private landowners to maintain or improve sage-grouse habitat on private lands through mutually beneficial habitat projects.

Literature Cited:

Prochazka, B.G., Coates, P.S., Aldridge, C.L., O'Donnell, M.S., Edmunds, D.R., Monroe, A.P., Hanser, S.E., Wiechman, L.A., and Chenaille, M.P., 2024, Range-wide population trend analysis for greater sage-grouse (Centrocercus urophasianus)—Updated 1960–2023: U.S. Geological Survey Data Report 1190, 18 p., **https://doi.org/10.3133/dr1190**.

Southwest

Job Completion Report

Prepared By: Patrick Burke, Green River Wildlife Biologist

Period Covered: 1-1-2025 to 12-31-2025

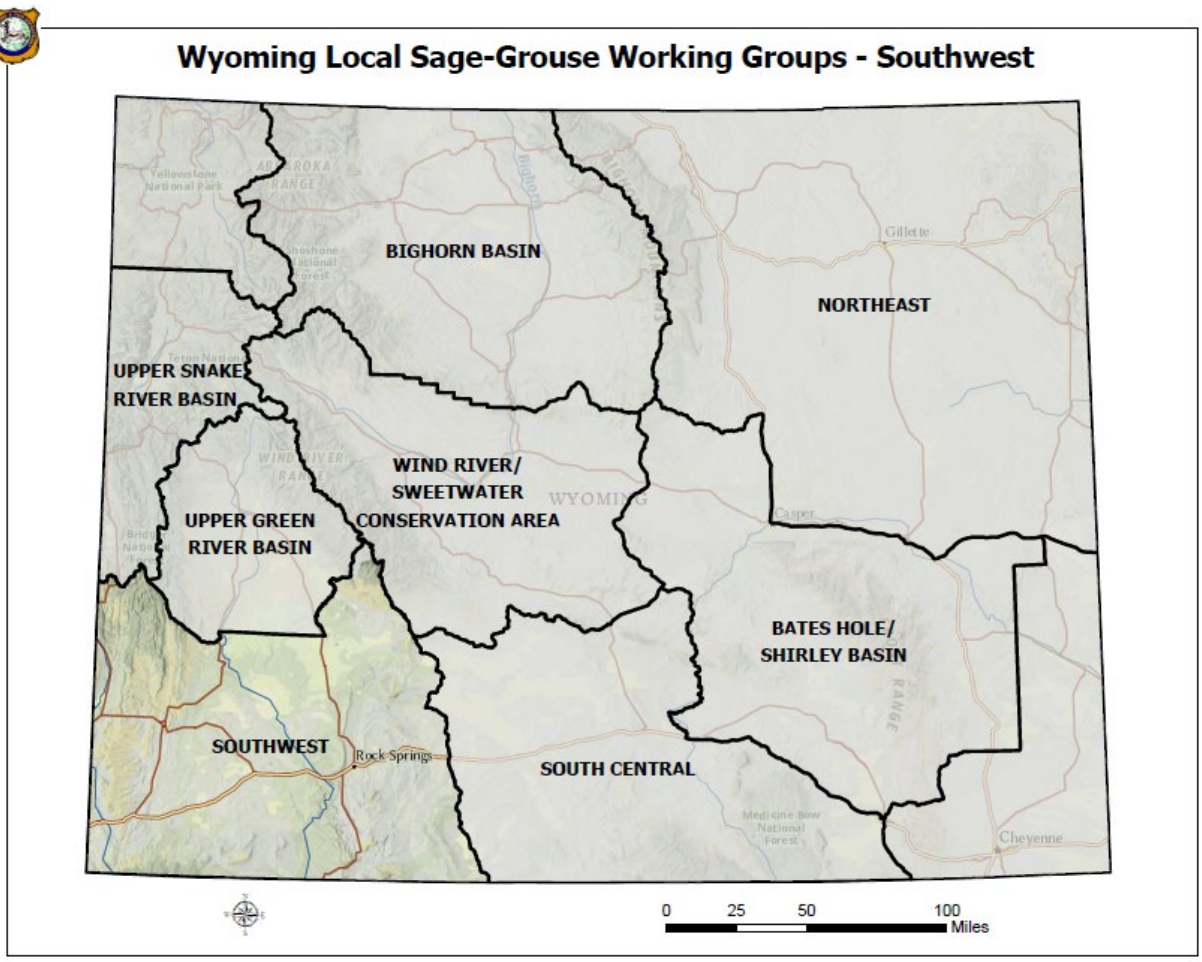


Table 1: Sage-Grouse Lek Characteristics

	Group	N	Percent
BLM Office			
	Kemmerer	207	44.5%
	Pinedale	14	3%
	Rawlins	4	0.9%
	Rock Springs	240	51.6%
Biologist			
	Green River	170	36.6%
	Lander	1	0.2%
	Mountain View	240	51.6%
	Pinedale	54	11.6%
Classification			
	Occupied	330	71%
	Undetermined	12	2.6%
	Unoccupied	123	26.5%
County			
	Fremont	4	0.9%
	Lincoln	138	29.7%
	Sublette	35	7.5%
	Sweetwater	214	46%
	Uinta	74	15.9%

	Group	N	Percent
Land Status			
		1	0.2%
	BLM	320	68.8%
	BOR	15	3.2%
	National Park	2	0.4%
	Private	108	23.2%
	State	18	3.9%
	USFS	1	0.2%
Lek Status			
	Active	267	57.4%
	Inactive	79	17%
	Unknown	119	25.6%
Management Area			
	G	465	100%
Region			
	Green River	411	88.4%
	Pinedale	54	11.6%
Warden			
	Cokeville	55	11.8%
	Evanston	43	9.2%
	Green River	75	16.1%
	Kemmerer	73	15.7%
	Mountain View	51	11%
	Rock Springs	114	24.5%
	South Pinedale	54	11.6%

Table 2: Leks Counted

Year	Occupied	Counted	Percent Counted	Peak Males	Average Peak Males
2016	328	97	29.6%	3,798	43.2
2017	337	100	29.7%	3,013	33.9
2018	341	102	29.9%	2,654	30.2
2019	341	88	25.8%	1,437	19.2
2020	340	73	21.5%	1,224	20.4
2021	341	92	27%	1,231	17.1
2022	339	80	23.6%	804	14.4
2023	335	43	12.8%	719	21.1
2024	337	88	26.1%	2,446	33.5
2025	339	61	18%	1,968	36.4

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 3: Leks Surveyed

Year	Occupied	Surveyed	Percent Surveyed	Peak Males	Average Peak Males
2016	328	211	64.3%	6,488	40.5
2017	337	203	60.2%	5,991	38.9
2018	341	210	61.6%	5,357	32.1
2019	341	201	58.9%	3,068	23.6
2020	340	212	62.4%	3,003	20.0
2021	341	183	53.7%	1,933	14.6
2022	339	206	60.8%	2,242	16.0
2023	335	178	53.1%	1,886	21.7
2024	337	217	64.4%	4,780	31.9
2025	339	208	61.4%	5,161	36.6

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 4: Leks Checked

Year	Occupied	Checked	Percent Checked	Peak Males	Average Peak Males
2016	328	308	93.9%	10,286	41.5
2017	337	303	89.9%	9,004	37.1
2018	341	312	91.5%	8,011	31.4
2019	341	289	84.8%	4,505	22.0
2020	340	285	83.8%	4,227	20.1
2021	341	275	80.6%	3,164	15.5
2022	339	286	84.4%	3,046	15.5
2023	335	221	66%	2,605	21.5
2024	337	305	90.5%	7,226	32.4
2025	339	269	79.4%	7,129	36.6

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 5: Lek Status of Leks Checked

Year	Active	Inactive	Unknown	Known Status	% Active	% Inactive
2016	266	26	16	292	91.1%	8.9%
2017	256	30	17	286	89.5%	10.5%
2018	262	31	19	293	89.4%	10.6%
2019	231	46	12	277	83.4%	16.6%
2020	225	31	29	256	87.9%	12.1%
2021	221	33	21	254	87%	13%
2022	223	28	35	251	88.8%	11.2%
2023	163	31	27	194	84%	16%
2024	245	39	21	284	86.3%	13.7%
2025	211	24	34	235	89.8%	10.2%

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Inactive - Confirmed no birds/sign present (see official definitions)

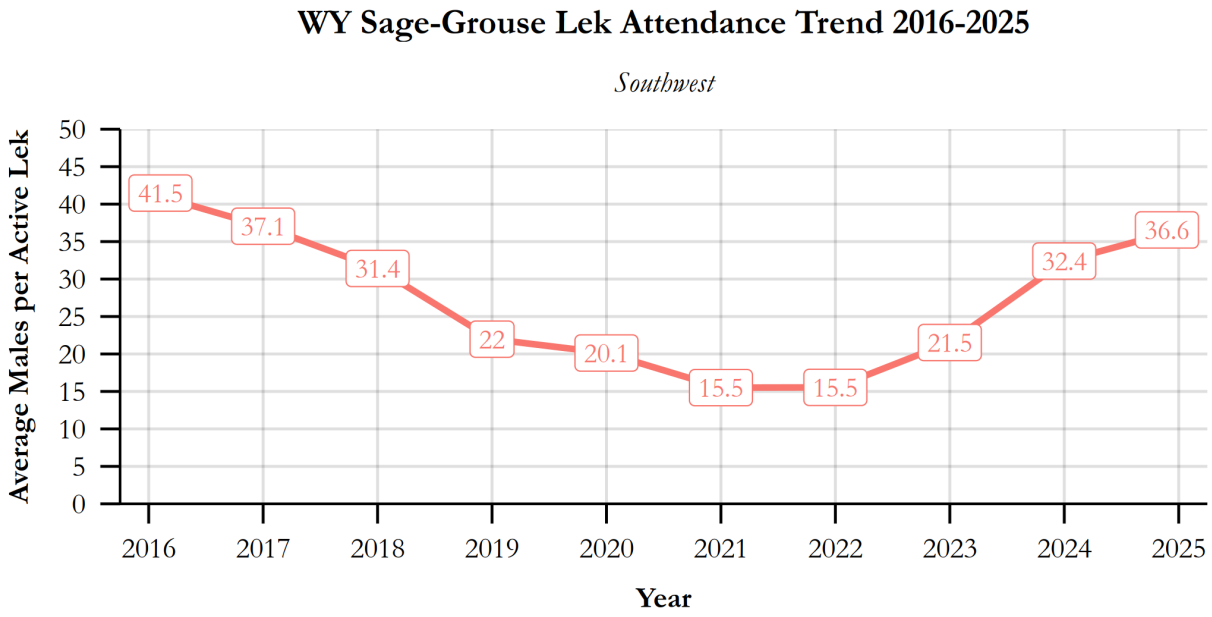


Figure 1: Average Peak Males

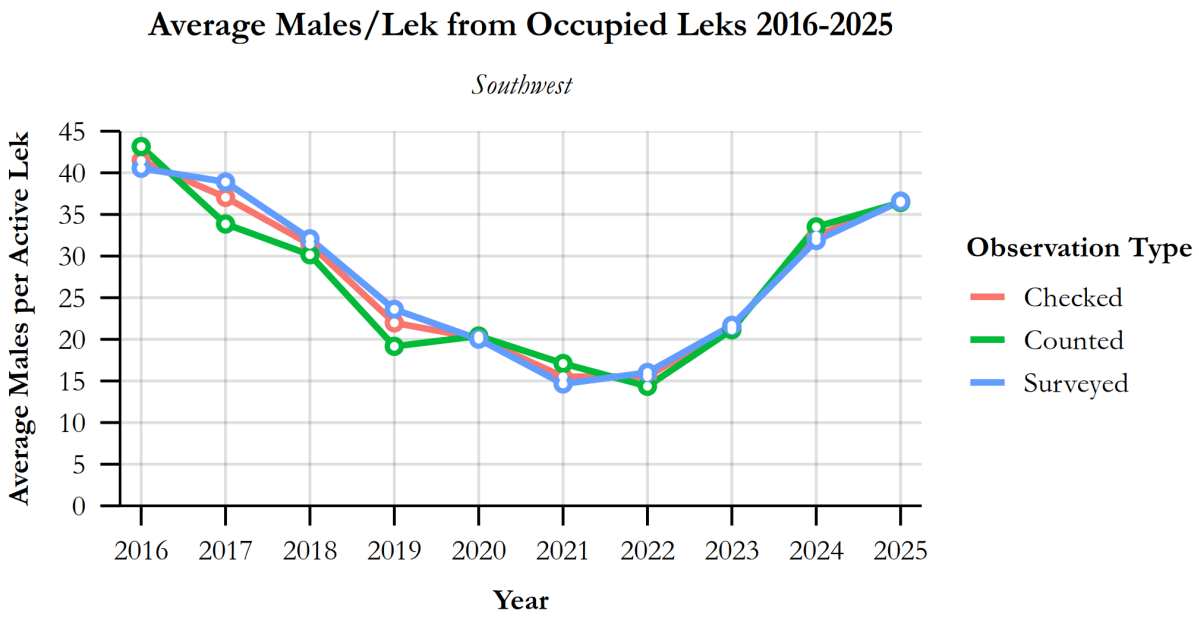


Figure 2: Average Peak Males

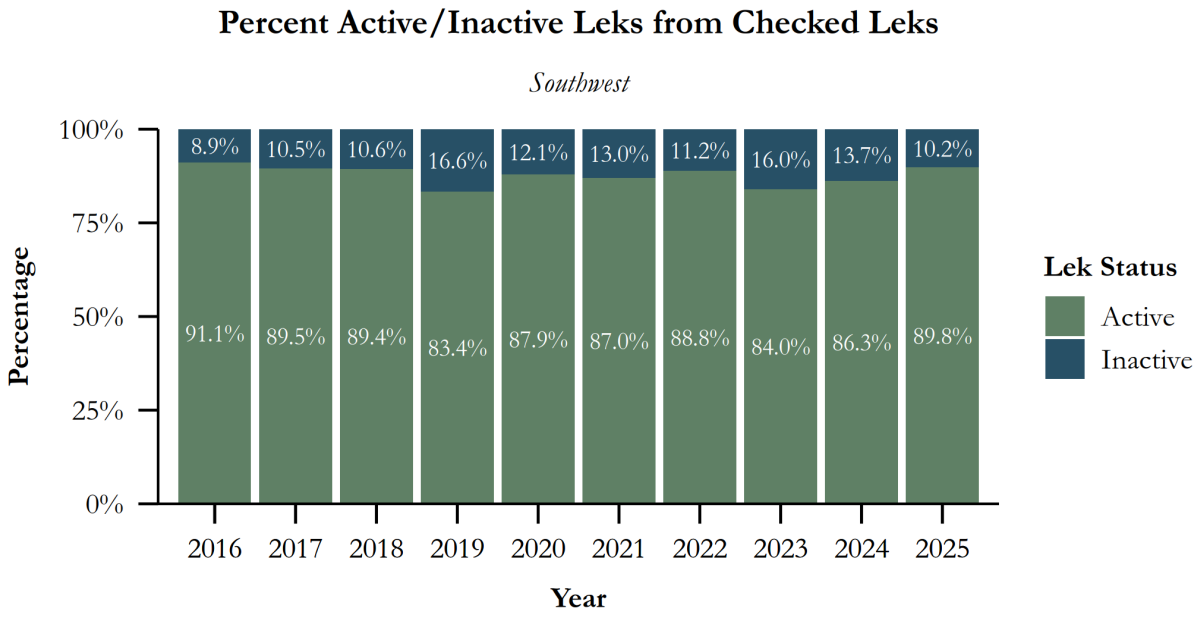


Figure 3: Lek Status

Table 6: Hunting Seasons

Year	Season Start	Season End	Length	Bag/Possession Limit
2016	Sep-17	Sep-30	14	2/4
2017	Sep-16	Sep-30	15	2/4
2018	Sep-15	Sep-30	16	2/4
2019	Sep-21	Sep-30	10	2/4
2020	Sep-19	Sep-30	12	2/4
2021	Sep-18	Sep-30	13	2/4
2022	Sep-17	Sep-30	14	2/4
2023	Sep-16	Sep-30	15	2/4
2024	Sep-21	Sep-30	10	2/4
2025	Sep-20	Sep-30	11	2/4

Table 7: Harvest Totals

Year	Harvest	Hunters	Days	Birds/Day	Birds/Hunter	Days/Hunter
2016	4,163	1,672	4,036	1.0	2.5	2.4
2017	3,590	1,421	3,675	1.0	2.5	2.6
2018	3,410	1,630	3,873	0.9	2.1	2.4
2019	2,821	1,514	3,746	0.8	1.9	2.5
2020	1,491	737	2,336	0.6	2.0	3.2
2021	2,937	1,650	5,022	0.6	1.8	3.0
2022	3,968	1,974	5,371	0.7	2.0	2.7
2023	4,160	1,680	4,675	0.9	2.5	2.8
2024	3,025	1,495	3,343	0.9	2.0	2.2
2025	2,300	1,357	3,124	0.7	1.7	2.3
Average	**3,186**	**1,513**	**3,920**	**0.8**	**2.1**	**2.6**

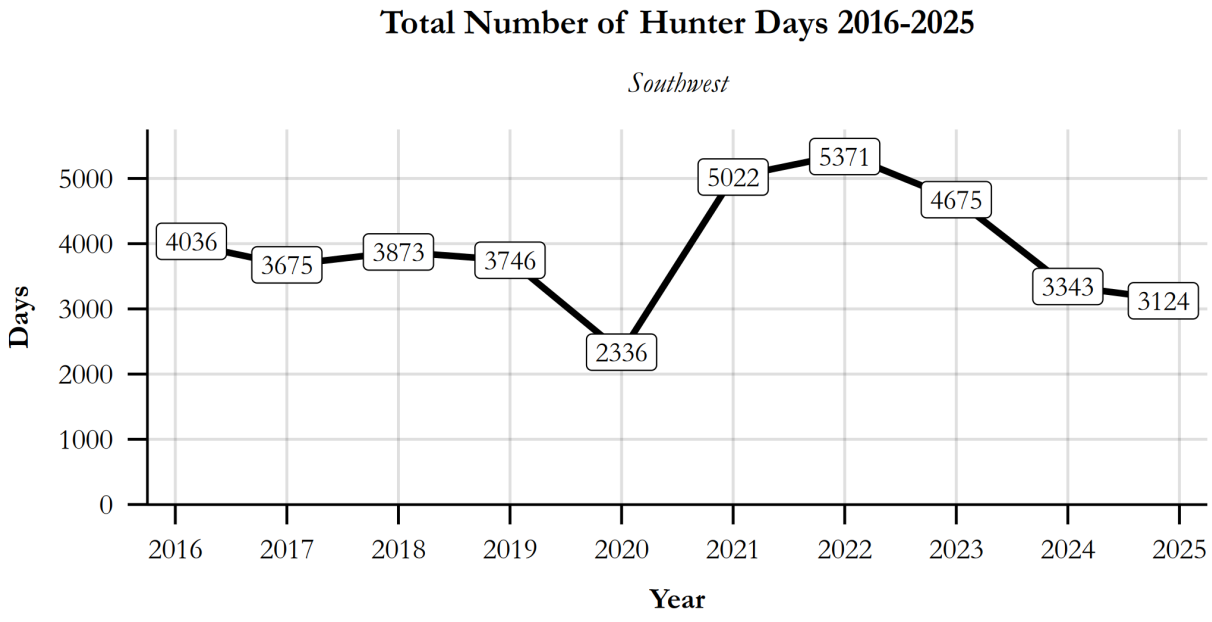


Figure 4: Harvest Days

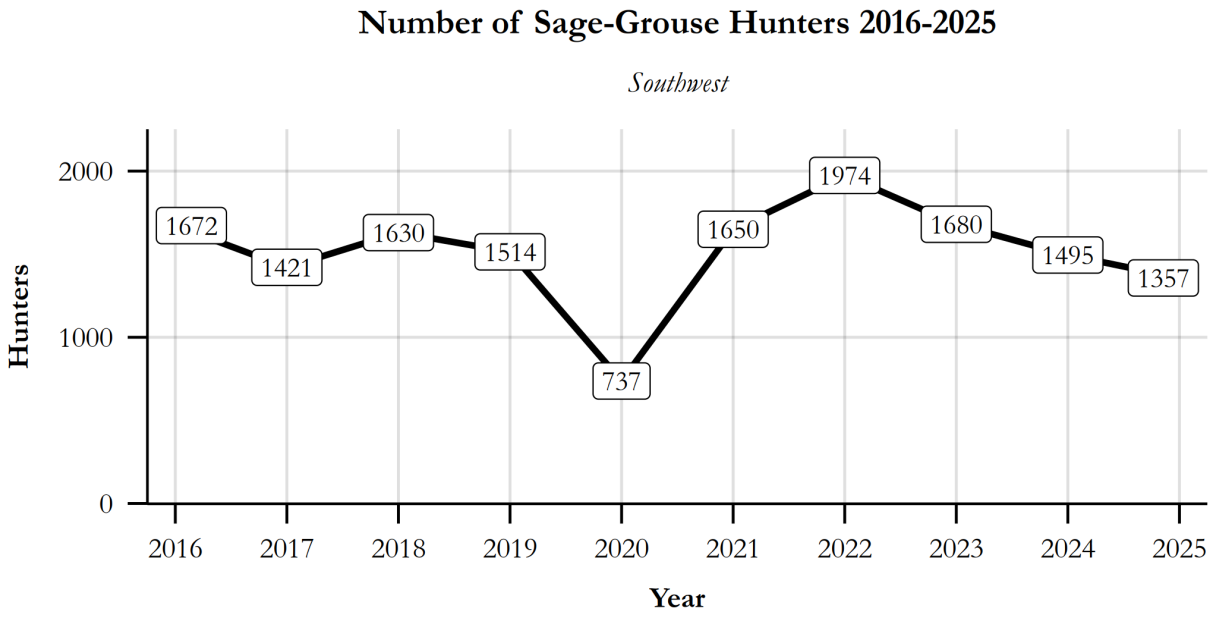


Figure 5: Hunters

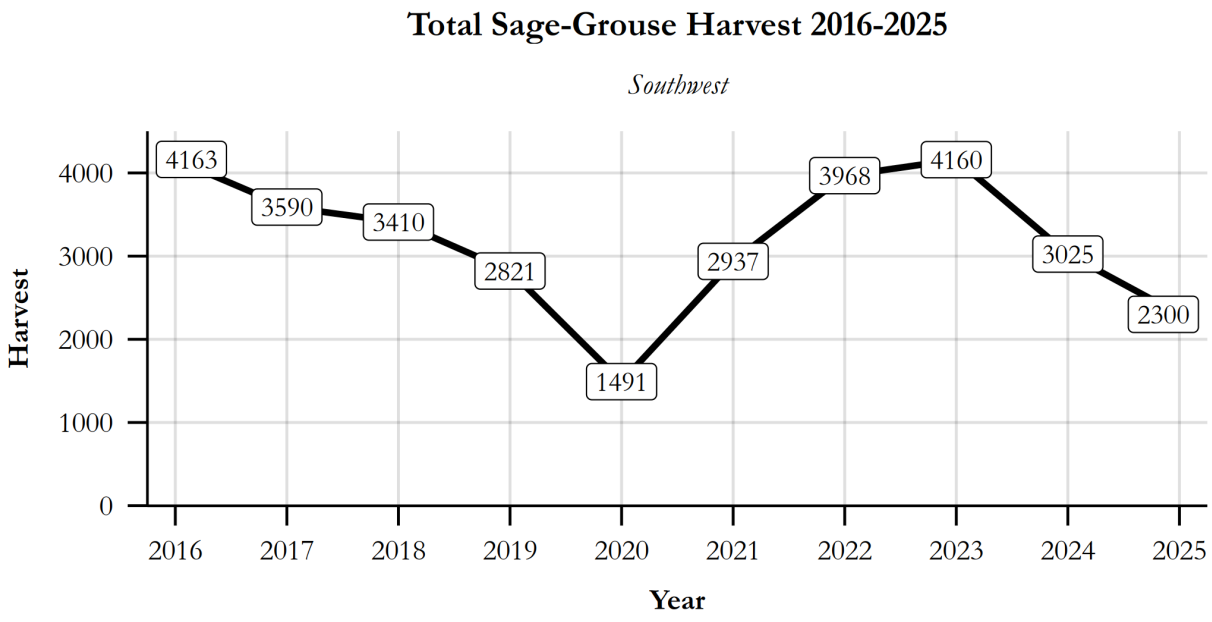


Figure 6: Total Harvest

Table 8: Harvest Composition

		Percent Adult		Percent Yearling		Percent Chick		
Year	Sample Size	Male	Female	Male	Female	Male	Female	Chicks/Hens
2016	949	15.2%	30.5%	4.2%	5.6%	19.9%	24.7%	1.2
2017	813	9.5%	31%	2.8%	7%	22.6%	27.1%	1.3
2018	827	12%	33.4%	6.5%	13.4%	13.1%	21.6%	0.7
2019	570	7.9%	37.5%	2.1%	6.3%	14.4%	31.8%	1.1
2020	779	7.8%	31.3%	3.6%	6.4%	20.5%	30.3%	1.3
2021	447	12.8%	46.1%	1.6%	6.9%	15%	17.7%	0.6
2022	677	7.4%	30.1%	1.9%	4.6%	25.3%	30.7%	1.6
2023	958	7%	26.1%	2%	3.3%	26.6%	35%	2.1
2024	1,040	12.1%	25.5%	6.2%	9.2%	21.9%	25.1%	1.4
2025	858	14.9%	35.1%	5.5%	9.3%	14%	21.2%	0.8

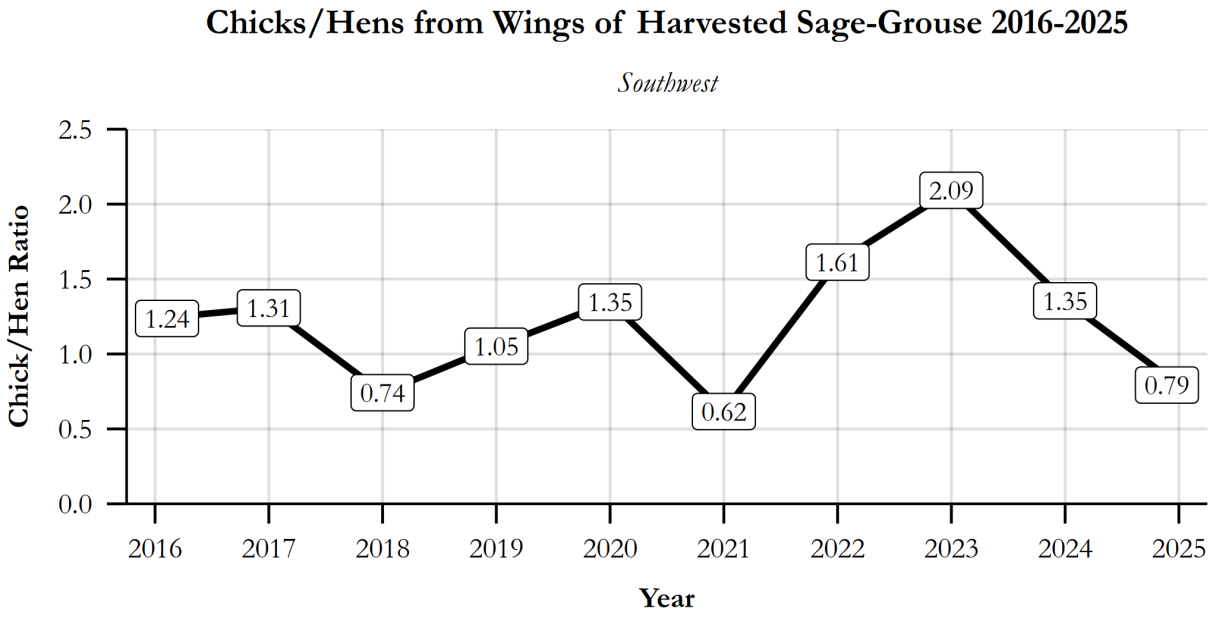


Figure 7: Chick/Hen Ratio

Table 9: Spring precipitation compared to fall chick:hen ratios in the SWSGCA 2016-2025. Precipitation data from: http://www.wrcc.dri.edu/index.html (Click on Monitoring – under Monitoring click on Drought Monitoring then click on Monthly divisional precipitation or temperature – click on the map in the relevant portion of Wyoming, in this case division #3 Green and Bear Drainage Division – set up the plot as desired including "List the data for the points plotted?" Option – add the percentages listed under March through June of the year of interest and divide by four).

Year	% of Average March-June Precipitation	Chicks: Hen
2016	145%	1.24
2017	105%	1.31
2018	96%	0.74
2019	125%	1.05
2020	91%	1.35
2021	67%	0.62
2022	91%	1.61
2023	122%	2.09
2024	90%	1.35
2025	71%	0.79

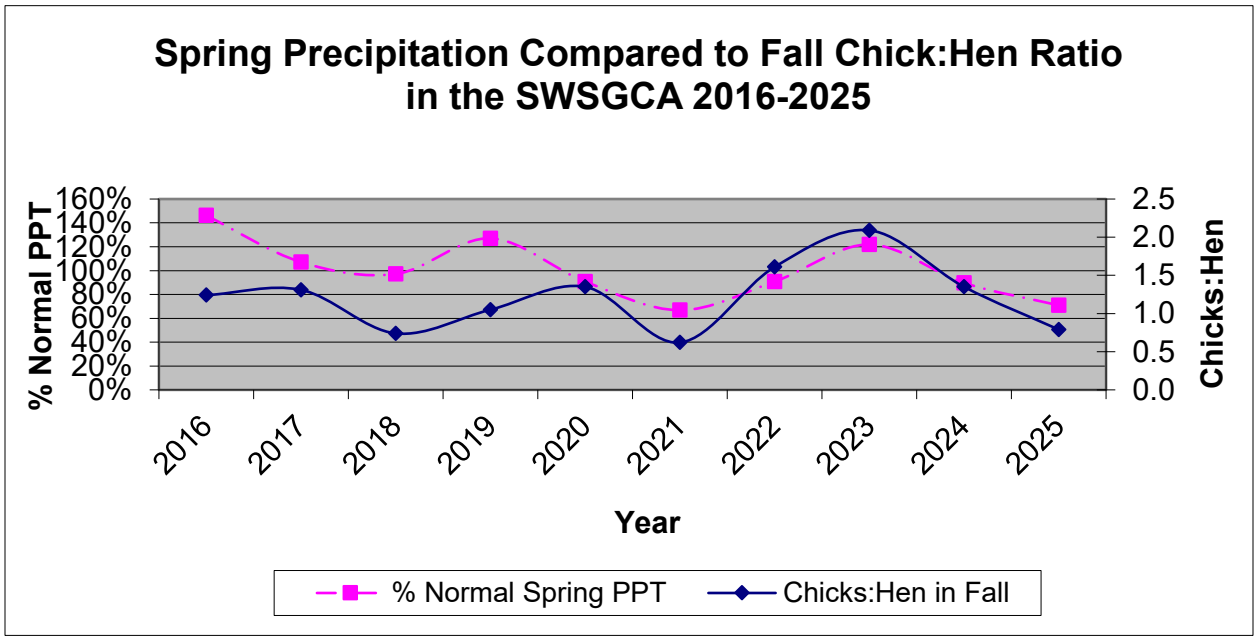


Figure 8: Spring precipitation compared to fall chick:hen ratios in the SWSGCA 2016-2025.

Lek Monitoring:

A total of 339 occupied leks were known to exist in the Southwest Wyoming Sage-grouse Conservation Area (SWSGCA) during the 2025 lekking season. Of these 339 occupied leks, 269 of them were checked, with 61 of those checks being lek counts with three or more visits during the breeding season, with the remaining 208 checks consisting of lek surveys where less than three lek visits were made during the breeding season. The percentage of the known sage-grouse leks that were checked during the 2024 lekking season was 79.4%.

Due to recent declines in the number of partners available to conduct lek checks, data collection efforts have been shifted to focus on lek surveys, which involved at least one visit to the lek during the breeding season over lek counts, which are more labor intensive and involve three or more visits during the breeding season. Fedy and Aldridge (2011) determined that sage-grouse population trends demonstrated by lek surveys are the same as those indicated by lek counts as long as the number of leks surveyed exceeds 50 leks in an area.

Since only "occupied" leks are being reported on **Tables 1-5**, it is important to consider trends in the numbers of active versus inactive leks in addition to the average size of active leks. During a period of population decline, the size of active leks typically declines and the number of inactive leks increases. The converse is typically true of an increasing population. Therefore, the magnitude of both increases and decreases is usually greater than what is indicated by the average lek size alone. The proportion of known status leks that were active in the SWSGCA has remained relatively steady over the 10-year reporting period varying from 83-91% active. The proportion of active leks for the 2025 lekking season, was in line with typical values having 89.8% of the occupied leks that were checked being active.

Monitoring the total number of males on a lek is used as an index of trend, but these data should be viewed with caution for several reasons: 1) the survey effort and the number of leks surveyed/counted has varied over time; 2) it can be safely assumed that not all leks in the area have been located; 3) sage-grouse populations can exhibit cyclic patterns over approximately a decade long period; 4) the effects of un-located or un-monitored leks that have become inactive cannot be quantified or qualified; 5) lek sites may shift over time; and 6) new leks may be created. Both the number of leks and the number of males attending these leks must be quantified to estimate population trend.

The average number of males per active lek for all leks checked (both counted and surveyed) during the 2025 lekking season was 36.6 males per active lek. This is down from the high observations of 35 to 41 males per active lek observed from 2016 to 2018, but is above the average from the previous nine years of 32.4 males per active lek. The average number of males in attendance on the 61 count leks in 2025 was 36.4 males per lek. This number is above the average from the previous nine years of 26 males per lek. For the 208 leks that were surveyed in 2025, the average lek had 36.6 males in attendance; which is above the average from the previous nine years of 26.6 males per lek, but is still below 2016's and 2017's observed values of 40.3 and 38.7 males per survey lek.

It is important to note that data collection efforts have increased considerably since the early 2000's. In 2000, only 63% of known occupied leks were checked, but in recent years, the number annually checked is usually above 90% of the known occupied leks. In addition, efforts by WGFD personnel, volunteers, and other government and private industry biologists have led to increased numbers of known leks.

Currently, no method exists to estimate total sage-grouse population size in a statistically significant way. However, the recent male per lek averages along with the observed chick per hen ratios in hunter submitted wings indicate that the sage-grouse population in southwest Wyoming had been increasing during 2023 and 2024, but may have started to decrease during 2025.

Production:

Sage-grouse wings are collected each hunting season via voluntary hunter submission to allow for the determination of the sex and age of harvested birds. Successful hunters submitted 858 grouse wings from the 2025 hunting season (**Table 8**). This represents just over 37% of the estimated total harvest for 2025, which is significantly above the average submission rate of around 18%-19% of the reported harvest.

The most important ratio obtained from the wing analysis is the chick to hen ratio; this ratio provides a general indication of chick recruitment. Assuming that hen and chick harvest is proportional to the actual makeup of the population, chick production for that year can be estimated by comparing the proportion of chicks to hens in the sample of submitted wings. Even if the rate of harvest between age/sex groups is not random, the information can be used as a tool for looking at population trends as long as any biases are relatively consistent across years.

In general, it appears that chick:hen ratios of about 1.3:1 to 1.7:1 result in relatively stable grouse populations, while chick:hen ratios of 1.8:1 or greater result in increasing grouse numbers and ratios below 1.2:1 result in subsequent declines. The chick:hen ratio as determined from hunter submitted wings for the 2025 hunting season was 0.79 chicks per hen harvested (**Table 8**). This observed chick to hen ratio suggests that fewer males can be expected to be seen on leks in 2026 than were observed in 2025.

Harvest:

The 2025 hunting season for sage-grouse in the SWSGCA ran from September 20 to September 30 and allowed for a daily take of two birds with a limit of four grouse in possession (**Table 6**). The 2025 season was consistent with how the season has been run since 2002 when the season opening date was moved to the third Saturday in September, and the daily bag limit was reduced to two birds and a possession limit of four birds. The sage-grouse season had historically started as early as September first and ran for 30 days; during this time the daily limit was three grouse with a possession limit of up to nine birds. Over time, the season was gradually shortened and the daily bag and possession limits reduced because of concern over declining sage-grouse populations. The opening date was moved back from the first of September to the third weekend because research suggested that hens with broods were concentrated near water sources earlier in the fall and therefore more susceptible to harvest. The later opening date allowed more time for those broods to disperse and therefore reduced hunting pressure on those hens that were successful breeders and on young of the year birds.

The data for sage-grouse harvested in the SWSGCA for the 2016 to 2025 seasons are reported in **Table 7**. Based on harvest survey estimates, 1,357 hunters harvested 2,300 sage-grouse during the 2025 hunting season These numbers are down from the 2023 hunting season, when 4,160 birds were reported harvested by 1,680 hunters, but are generally in line with recent harvest estimates for the SWSGCA. The trends in harvest statistics over the last 10 years are not well correlated with average male lek attendance due to changes in hunting season structure, weather conditions, and hunter participation levels over that period.

Habitat:

Spring habitat conditions are one of the most important factors in determining nesting success and chick survival for sage-grouse. Specifically, shrub height and cover, live and residual grass height and cover, and forb production, all have a large impact on sage-grouse nesting and brood rearing success. The shrubs and grasses provide screening cover from predators and weather, while the forbs provide forage and insects that reside in the forbs, which are an important food source for chicks. Spring precipitation is an important determinant of the quality and quantity of these vegetation characteristics. Residual grass height and cover depends on the previous year's growing conditions and grazing pressure while live grass and forb cover are largely dependent on the current year's precipitation.

In general, winter weather has not been shown to be a limiting factor to sage-grouse except in areas with persistent snow cover that is deep enough to limit sagebrush availability. This condition is rarely present in the SWSGCA even during severe winters.

The spring (March-June) precipitation and fall chick:hen ratios (as determined by hunter submitted wings) are given in **Table 9** and **Figure 8**. Generally speaking, when spring precipitation is at or above 90% of average, chick to hen ratios are above average, but when spring precipitation is below average, chick:hen ratios also tend to be below average. However, periods of prolonged or poorly timed cold, wet weather may have adverse effects on hatching success, plant and insect phenology and production and chick survival. During the spring of 2025, the SWSGCA received 0.915 inches of precipitation compared to an long-term average of 1.29 inches of springtime precipitation. This equates to the region receiving approximately 70% of average springtime precipitation during 2025, which correlates well with the lower chick to hen ratios observed in hunter submitted wings from the 2025 hunting season.

Disease:

No cases of West Nile Virus (WNv) or other avian diseases are known to have occurred in sage-grouse in the SWSGCA in 2025.

Conservation Planning:

The Southwest Local Working Group (SWLWG) was established in September of 2004 and they completed their Sage-grouse Conservation Plan (Plan) in 2007. In 2014, the SWLWG adopted an addendum to their Plan which is available at **https://wgfd.wyo.gov/wyoming-wildlife/sage-grouse-management/sage-grouse-local-working-groups**. This addendum documented conservation action such as research and habitat projects the SCLWG had supported since their Plan was completed, as well as how these projects addressed the goals and action items identified in the Plan.

Four projects were funded by the SWLWG during the 2025 calendar year. Those projects were the GRSG Web-based Interactive Map, Southwest Wyoming Local Sage-Grouse Project Monitoring and Maintenance, the Upper Sweetwater Fence Conversion Project, and Free-Roaming Horse Micro-Habitat Impacts to Sage-Grouse Nest and Brood Survival project.

GRSG Web-based Interactive Map ("SGM")

The purpose of this project is to build and implement the "Sage-Grouse Mapper", which will be a user-friendly decision support tool that can assist anyone with land management interests involving GRSG and their habitats across the State of Wyoming. The Sage-Grouse Mapper (SGM) is a web-based program that will identify GRSG habitat suitability, stewardship potential, and other landscape-scale metrics for an area of interest within Wyoming and will display that habitat information graphically. The user interface will be intuitive so that people of all technological skill levels could draw (or import) a specific landscape of interest on a basemap, and then immediately view updated, relevant greater sage-grouse (GRSG) habitat information for that defined area.

Southwest Wyoming Local Sage-Grouse Project Monitoring and Maintenance

Since 2020, the SW LWG has funded a project sponsored by the Wyoming Wildlife Federation using a contract employee and various volunteers, including individual members of the Southwest LWG, to monitor these projects for success and maintenance needs, conduct maintenance as needed, and develop and implement new projects. The proposed project will continue these actions through the 2026 field season. Specific activities include:
1. Use LWG and agency files to compile applicable project sites.
2. Seek/secure private land access to project sites as necessary (most are on BLM lands).
3. Survey fences previously marked for the purpose of preventing sage-grouse collisions. Grouse fence strikes will be recorded and broken/missing fence markers replaced.
4. Survey spring sites and other water sources that have been protected with steel-jack fencing and conduct necessary repairs.
5. Seek out and report additional on-the-ground project opportunities for fence marking, spring protections, wet meadow restoration, and others.
6. Document invasive plants via the EDDMapS West application both in conjunction with the above listed maintenance activities and/or as directed by the LWG.
7. Document and report all sage-grouse activity (and other species as requested).
8. Prepare and submit annual reports of the above activities.

Upper Sweetwater Fence Conversion Project

The Upper Sweetwater Fence Conversion Project is located just south of Highway 28 where the Sweetwater River crosses the highway on South Pass. It straddles the Oregon Buttes Road which is the boundary between the Wind River/Sweetwater and Southwest SGLWG areas. While fence conversion is generally not listed as a high priority objective within the SGLWG plans, marking fences and improving the visibility to decrease fence strikes is a best management practice for projects in sage-grouse core areas. While completing the fence inventory for this project on several occasions, biologists identified multiple sites where sage-grouse struck these fences, as evidenced by feathers stuck in the wires, and carcasses on the ground below the fence. Biologists also documented many sage-grouse using the area during the inventory. The wet meadows and riparian areas associated with the Sweetwater River and Fish Creek are important late summer brood rearing areas for sage-grouse. In discussing the project with biologists in the Pinedale Region, marking the fences in concert with using wood posts seems to have the highest positive impact in reducing fence strikes. The funding being requested for this project will be used to purchase black and white fence markers (which improve visibility in both the summer and winter under snow cover), and to purchase wood posts to use in sections of the fence along wet meadows and riparian areas, where sage-grouse are regularly

observed, and where sage-grouse strikes were documented. Any remaining funding will be used to build X gates or pipe structures to replace traditional H braces.

Free-Roaming Horse Micro-Habitat Impacts to Sage-Grouse Nest and Brood Survival

This proposed research will investigate how alterations by free-roaming horses to microhabitat characteristics influence nest and brood survival of greater sage-grouse in Sweetwater County, Wyoming.

There are four Local Sage-Grouse Working Groups (Bighorn Basin, South-Central, Southwest, and Wind River/Sweetwater River) in Wyoming whose Sage-Grouse Conservation Plans have identified free-roaming/wild/feral horses as a conflict for sage-grouse. However, only the South-Central and Southwest Local Working Groups (LWG's) provide plan-specific goals and objectives addressed by our project. I have highlighted the goals and objectives that our project addresses. However, the knowledge obtained from our project could be applicable to addressing additional plan-specific goals and objectives related to the management of free-roaming horses on lands managed by the Bureau of Land Management within all four Sage-Grouse LWGs that have identified free-roaming horses as a conflict for sage-grouse or specifically within the South-Central and Southwest LWGs.

Management Recommendations:

1. Continue to monitor a minimum of 80% of the known occupied leks in the SWSGCA
2. Update all lek observers on WGFD survey protocols in order to ensure that established lek monitoring protocols are followed
3. Continue to collect sage-grouse wings in wing barrels placed across the landscape in order to obtain an adequate and representative sample to derive sex/age and harvest trend information
4. Continue to identify needed sage-grouse research, data collection efforts, project proposals, development mitigation, and funding
5. Work with land management agencies to reduce negative impacts to crucial sage-grouse habitats
6. Work to increase the mapping of seasonal sage-grouse habitats

Upper Green River

Job Completion Report

Prepared By: Dean Clause, Pinedale Wildlife Biologist

Period Covered: 1-1-2025 to 12-31-2025

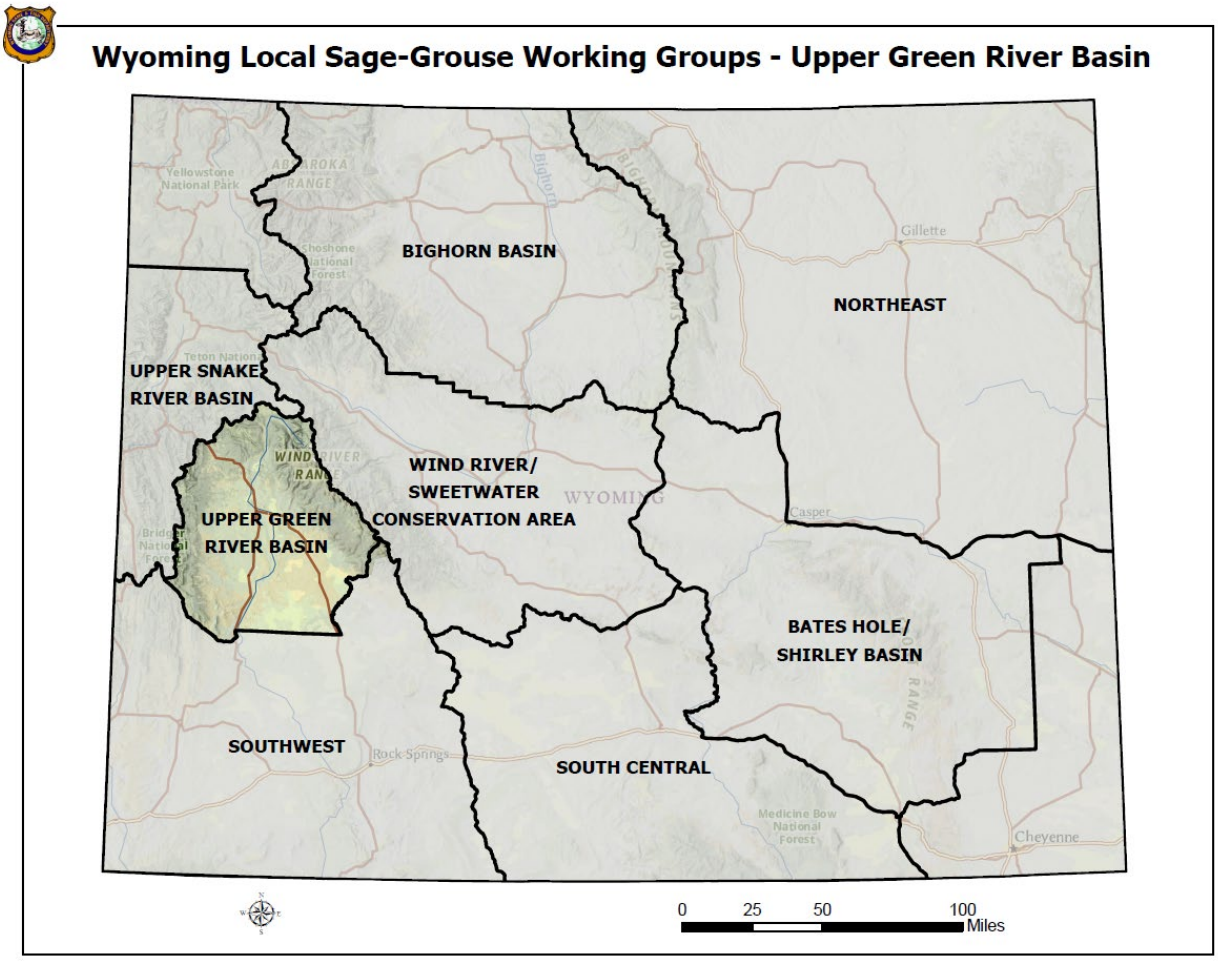


Table 1: Sage-Grouse Lek Characteristics

	Group	N	Percent
BLM Office			
	Pinedale	156	92.3%
	Rock Springs	13	7.7%
Biologist			
	Pinedale	94	55.6%
	Thayne	75	44.4%
Classification			
	Occupied	126	74.6%
	Unoccupied	43	25.4%
County			
	Lincoln	2	1.2%
	Sublette	167	98.8%

	Group	N	Percent
Land Status			
	BLM	137	81.1%
	Private	21	12.4%
	State	9	5.3%
	USFS	2	1.2%
Lek Status			
	Active	105	62.1%
	Inactive	63	37.3%
	Unknown	1	0.6%
Management Area			
	D	169	100%
Region			
	Pinedale	169	100%
Warden			
	Big Piney	87	51.5%
	North Pinedale	24	14.2%
	South Pinedale	58	34.3%

Table 2: Leks Counted

Year	Occupied	Counted	Percent Counted	Peak Males	Average Peak Males
2016	139	118	84.9%	5,241	54.6
2017	139	99	71.2%	4,224	53.5
2018	142	118	83.1%	4,052	40.9
2019	140	71	50.7%	2,081	33.6
2020	137	100	73%	2,423	31.5
2021	132	117	88.6%	2,505	25.8
2022	132	105	79.5%	1,966	22.9
2023	130	22	16.9%	380	19.0
2024	129	97	75.2%	3,214	39.2
2025	127	69	54.3%	2,289	37.5

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 3: Leks Surveyed

Year	Occupied	Surveyed	Percent Surveyed	Peak Males	Average Peak Males
2016	139	19	13.7%	886	63.3
2017	139	30	21.6%	1,091	52.0
2018	142	18	12.7%	484	40.3
2019	140	62	44.3%	1,489	30.4
2020	137	29	21.2%	498	23.7
2021	132	10	7.6%	105	15.0
2022	132	23	17.4%	418	29.9
2023	130	102	78.5%	1,849	26.0
2024	129	24	18.6%	487	32.5
2025	127	53	41.7%	2,038	49.7

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 4: Leks Checked

Year	Occupied	Checked	Percent Checked	Peak Males	Average Peak Males
2016	139	137	98.6%	6,127	55.7
2017	139	129	92.8%	5,315	53.1
2018	142	136	95.8%	4,536	40.9
2019	140	133	95%	3,570	32.2
2020	137	129	94.2%	2,921	29.8
2021	132	127	96.2%	2,610	25.1
2022	132	128	97%	2,384	23.8
2023	130	124	95.4%	2,229	24.5
2024	129	121	93.8%	3,701	38.2
2025	127	122	96.1%	4,327	42.4

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 5: Lek Status of Leks Checked

Year	Active	Inactive	Unknown	Known Status	% Active	% Inactive
2016	110	24	3	134	82.1%	17.9%
2017	100	29	0	129	77.5%	22.5%
2018	111	24	1	135	82.2%	17.8%
2019	111	22	0	133	83.5%	16.5%
2020	98	31	0	129	76%	24%
2021	105	22	0	127	82.7%	17.3%
2022	100	28	0	128	78.1%	21.9%
2023	98	18	8	116	84.5%	15.5%
2024	97	23	1	120	80.8%	19.2%
2025	102	19	1	121	84.3%	15.7%

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Inactive - Confirmed no birds/sign present (see official definitions)

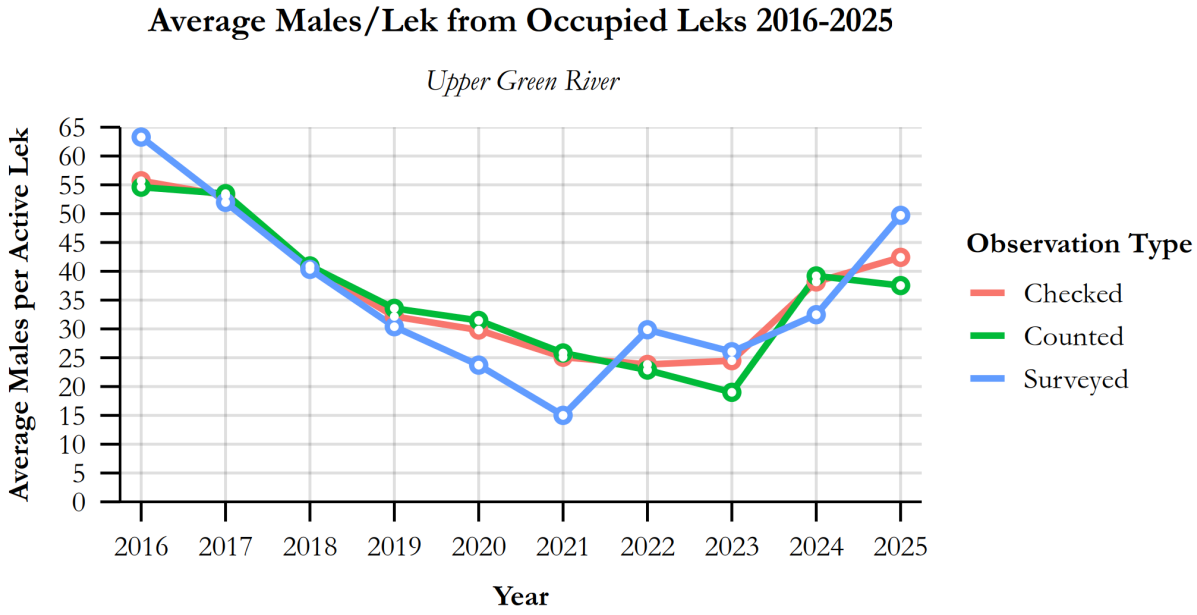


Figure 1: Average Peak Males

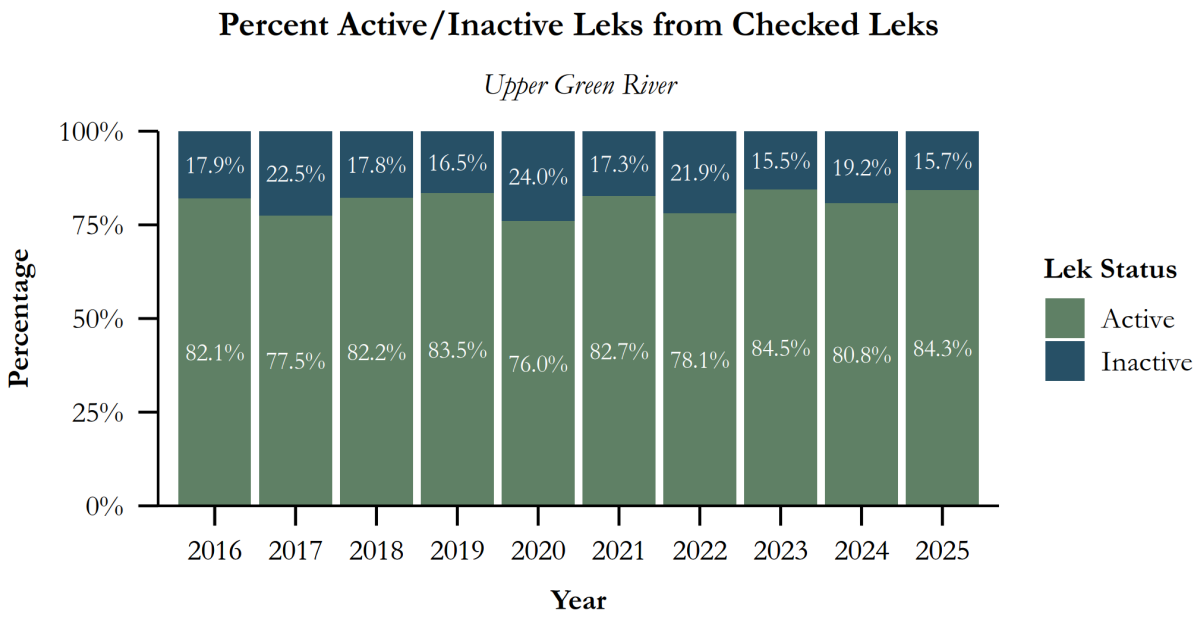


Figure 2: Lek Status

Table 6: Hunting Seasons

Year	Season Start	Season End	Length	Bag/Possession Limit
2016	Sep-17	Sep-30	14	2/4
2017	Sep-16	Sep-30	15	2/4
2018	Sep-15	Sep-30	16	2/4
2019	Sep-21	Sep-30	10	2/4
2020	Sep-19	Sep-30	12	2/4
2021	Sep-18	Sep-30	13	2/4
2022	Sep-17	Sep-30	14	2/4
2023	Sep-16	Sep-30	15	2/4
2024	Sep-21	Sep-30	10	2/4
2025	Sep-20	Sep-30	11	2/4

Table 7: Harvest Totals

Year	Harvest	Hunters	Days	Birds/Day	Birds/Hunter	Days/Hunter
2016	1,990	706	2,012	1.0	2.8	2.8
2017	988	402	921	1.1	2.5	2.3
2018	2,161	853	2,632	0.8	2.5	3.1
2019	1,053	548	1,248	0.8	1.9	2.3
2020	1,770	704	1,922	0.9	2.5	2.7
2021	1,238	772	1,998	0.6	1.6	2.6
2022	1,502	673	1,551	1.0	2.2	2.3
2023	2,161	818	2,211	1.0	2.6	2.7
2024	930	562	1,315	0.7	1.7	2.3
2025	869	499	1,250	0.7	1.7	2.5
Average	**1,466**	**654**	**1,706**	**0.9**	**2.2**	**2.6**

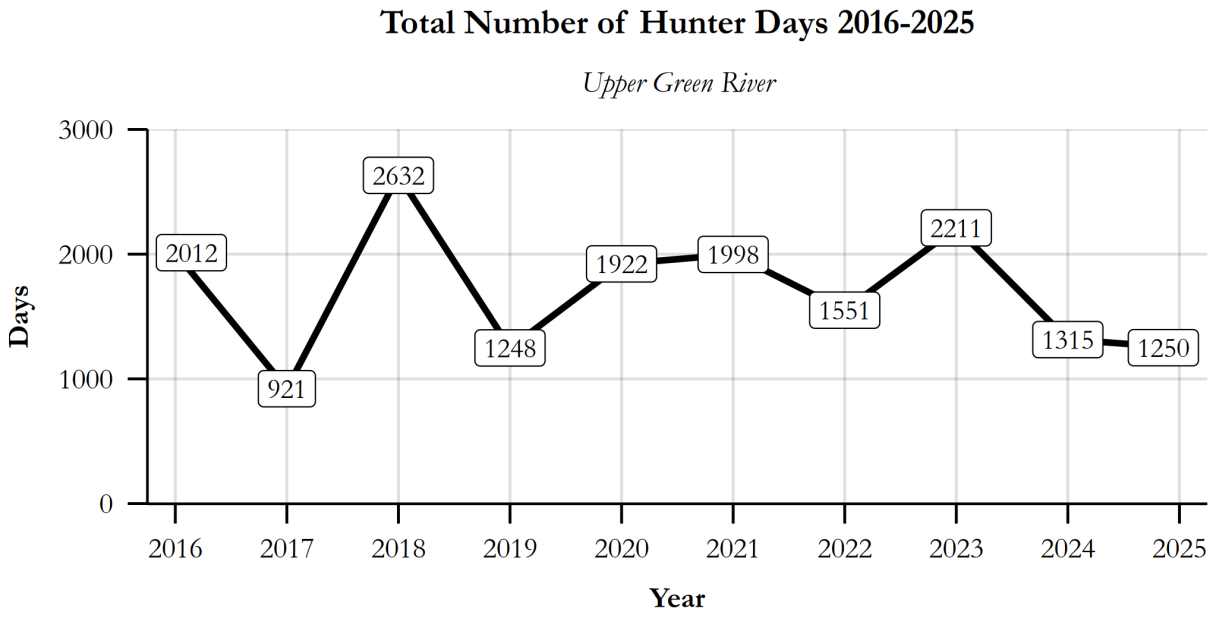


Figure 3: Harvest Days

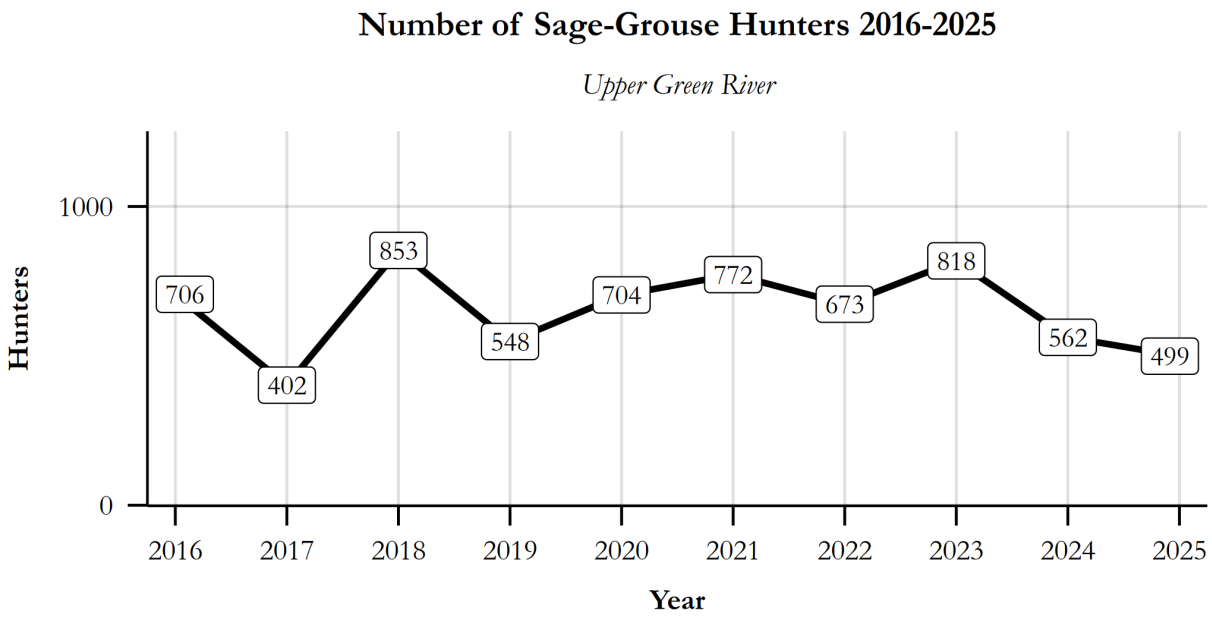


Figure 4: Hunters

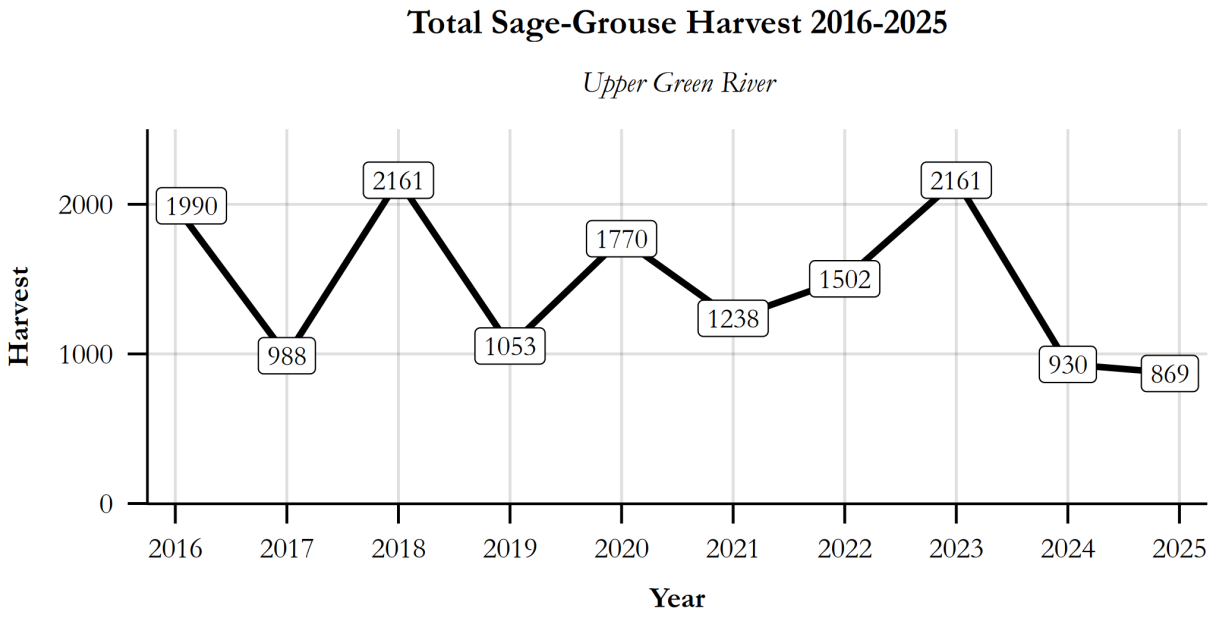


Figure 5: Total Harvest

Table 8: Harvest Composition

		Percent Adult		Percent Yearling		Percent Chick		
Year	Sample Size	Male	Female	Male	Female	Male	Female	Chicks/Hens
2016	450	17.6%	43.1%	3.1%	5.8%	12.4%	18%	0.6
2017	573	15%	35.1%	3.3%	6.3%	18.8%	21.5%	1.0
2018	466	11.8%	38.8%	5.8%	10.7%	11.8%	21%	0.7
2019	342	7.3%	32.5%	1.8%	12%	14.3%	32.2%	1.0
2020	471	10.2%	37.6%	3%	7.9%	18.3%	23.1%	0.9
2021	410	11.2%	47.1%	2.9%	5.9%	12.2%	20.5%	0.6
2022	310	12.3%	41.3%	1.6%	8.1%	13.5%	23.2%	0.7
2023	500	4.8%	22%	5.6%	10.4%	19.4%	37.8%	1.8
2024	411	10.9%	31.4%	4.6%	15.1%	17.5%	20.4%	0.8
2025	378	17.5%	33.9%	7.4%	11.4%	13.2%	16.7%	0.7

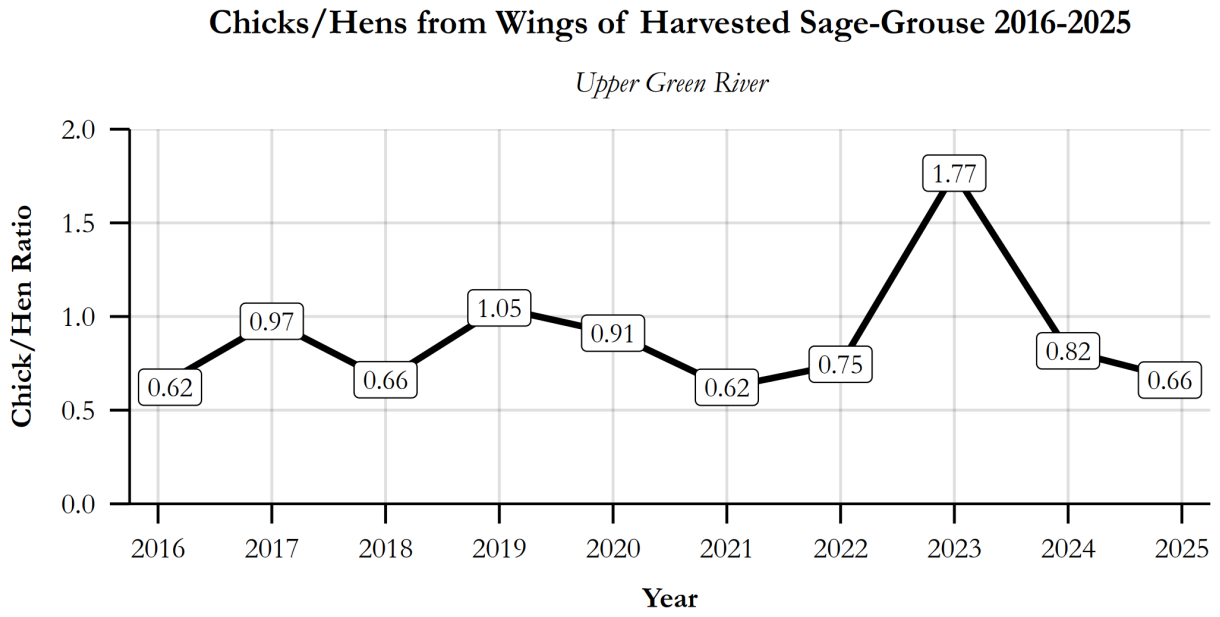


Figure 6: Chick/Hen Ratio

Lek Monitoring:

A total of 169 leks are currently documented in the Upper Green River Basin Working Group Area (UGRBWGA). These leks are classified as follows; 126 occupied, 43 unoccupied, and 0 undetermined. During 2025, a total of 122 occupied leks (96%) were checked (survey or count). Lek monitoring efforts in 2025 resulted in a high proportion of counts (57%) verses surveys (43%), Results from lek monitoring in 2025 showed 84% were active and 16% inactive of those leks classified as occupied. The average number of males/lek for all active leks increased to 42 in 2025 from 38 in 2024, compared to 25 in 2023, and 24 in 2022. This results in a 11% increase from 2024 but 24% lower than the last peak in 2016 (**Table 4**).

The highest documented average peak male attendance occurred in 2007 at 69 for this UGRBWGA. Since 2007, the observed average peak males have declined through 2010, stabilized from 2011-2014, and increased in 2015, stabilized in 2016-2017, declined in 2018-2021, stabilized during 2022-2023, and increased in both 2024 and 2025. Sage-grouse trends are likely a combination of the cyclic nature of sage-grouse populations, drought, and influences from habitat fragmentation in the Upper Green River Basin (Fedy and Doherty 2010). Caution is warranted when analyzing long-range data sets (20+ years) within the UGRBWG area as the number of known (documented) leks have more than doubled during the past 20 years. Since many of these newly documented leks probably existed but were not monitored, there is some speculation in regards to what the average number of males/lek actually was prior to the mid 1990's.

The proportion of leks checked that are confirmed "active" has stayed relatively stable during the past 10 years, ranging from 76% to 84% (**Figure 2**). Although, there has been increased lek inactivity and abandonment in areas associated with gas development activity. Additional lek monitoring efforts and

searches have resulted in locating new or undiscovered leks (67 new leks since 2004), mathematically negating the downward trend in the proportion of active leks in the UGRBWGA.

Harvest:

The 2025 sage-grouse season was September 20 through September 30, a 11-day hunting season, one day longer than in 2024 (**Table 6**). Hunting seasons since 2002 have allowed the season to remain open through two consecutive weekends. From 1995 – 2001 hunting seasons were shortened to a 15–16-day season that typically opened during the third week of September and closed in early October. Prior to 1995, the sage-grouse seasons opened on September 1 with a 30-day season. Seasons have been shortened with later opening dates to increase survival of successful nesting hens (as they are usually more dispersed later in the fall) and to reduce overall harvest.

Bag limits from 2003 to 2024 have been two per day and four in possession. 2003 was the first year that bag/possession limits had been this conservative. Bag limits traditionally (prior to 2003) were three birds/day with a possession limit nine (changed to six birds from 1994-2002).

A mandatory sage-grouse permit was required during 2024 and 2025 to expand efforts to survey sage-grouse hunters. This permit allows harvest survey efforts to target a much higher portion of actual sage-grouse hunters compared to previous years, therefore resulting in improved reported harvest metrics. The 2025 harvest survey estimated that 499 hunters bagged 869 sage-grouse and spent 1,250 days hunting, which was all lower than the 2024 harvest. The average number of birds per day was 0.7, the average number of birds per hunter was 1.7, and the number of days spent hunting per hunter was 2.5 during 2025, very similar to 2024 (**Table 7**). During the past 10-year period, hunter participation and harvest metrics have varied somewhat, probably attributed to a combination of population trends, yearly bird recruitment, weather conditions, and season length (**Table 7**). In general, these trends in harvest metrics have varied somewhat which can attributed to a combination of weather conditions during the hunting season, sage-grouse populations (or perceived population trend), and season length. In addition, the efforts to improve accuracy of reported harvest in 2024 and 2025 most likely is not comparable to that reported in previous years. Since 1995, overall harvest and harvest rates significantly declined following altered seasons (shortened and moved to a later date).

Wing Collections

Eighteen sage-grouse wing barrels were distributed throughout Sublette County during the 2025 hunting seasons within Management Area D. Barrels were placed prior to the sage-grouse hunting season opener and were taken down following the closing date. Wing collections were typically made following each weekend of the hunting season. The wings are used to determine age and sex based on molting patterns and feather characteristics, and calculate harvest composition proportions.

A total of 378 sage-grouse wings were collected from barrels in the UGRBWGA during 2025. The number of wings collected during the past 10-year period ranged from 310 to 573 (**Table 8**). Of the 378 wings collected in 2025, 30% were juvenile birds and 45% were adult and yearling hens. The overall composition of wings in 2025 indicated a ratio of 0.7 chicks/hen (adult and yearling females), which typically results in static to lower lek counts the following spring. **Figure 6** shows the past 10-year chick/hen ratios, with only 2019 and 2023 above 1.0 chicks/hen. This assessment of chick production from wing collections has correlated well with male lek trends and a relatively good indicator for future population trends.

Winter Distribution Surveys:

No specific winter sage-grouse surveys were conducted during the 2024-2025 winter within the UGRBWG Area. Winter surveys were initially conducted in 2004 and continued through 2013 within portions of the Upper Green River Basin. This winter data has been used to develop winter concentrations area maps (first map developed in 2008). Additional analysis methods such as Resource Selection Function (RSF) models have recently been utilized with winter survey data to help refine previously identified winter concentration areas (WCA), see project details below. Although, WCA have been identified throughout the UGRBWG Area, the Sage-Grouse Implementation Team has recognized one area located in the Alkali Draw & Alkali Creek Area as of 2019. Efforts to identify or delineate additional WCA's throughout the UGRBWGA were completed in 2023 and are awaiting consideration by the Winter Concentration subgroup of the Sage-Grouse Implementation Team for designation of these newly identified WCA's.

Sage-Grouse Research Projects:

Significance of Geophagy

There has been on-going study (initiated in 2013) looking into the significance of geophagy by sage-grouse within the UGRBWGA. The field work was completed in the fall of 2021 with a possible publication report in 2025.

Sage-grouse geophagy, or intentional ingestion of soil, was documented in Sublette County Wyoming during the winter of 2012 – 2013. While it is well-known for a variety of other birds and mammals, it represents a behavior that has not been described for sage-grouse. The goal of this project is to assess the importance of "soil-eating" areas in describing winter habitat selection by sage-grouse. Currently, within the Upper Green River Basin researchers have identified 24 confirmed locations of geophagy behavior. An additional 20+ potential locations have also been identified. Past collaborators on the project have been the BLM, Teton Raptor Center, Wyoming Wildlife Consultants, and Sublette County Conservation District. Soil has been collected and tested at each confirmed location and compared to soil at random locations in order to identify the potential target mineral or compound responsible for the behavior. Soil tests indicate higher sodium, pH, and clay content at the documented geophagy sites.

A Utah State University graduate student is currently assessing habitat selection for wintering sage-grouse in the presence of geophagy sites. This resource selection analysis will not only help determine how geophagy sites influence winter habitat selection, but also help predict areas of importance to wintering sage-grouse in these areas. A second graduate student from Utah State University is continuing research and data collection efforts for this geophagy project specifically to evaluate how geophagy behavior may influence reproduction during the breeding season.

Adaptive Management of the Normally Pressured Lance Natural Gas Development Project for Great Sage-Grouse – 2023 Progress Report for Pre-development Data Collection

Future collection and continuation of this NPL study is unknown as of December of 2025 and may not resume until outside funding is secured or gas development is initiated within this winter concentration area.

Abstract - Our study has focused on monitoring greater sage-grouse (Centrocercus urophasianus; hereafter 'sage-grouse') habitat use and survival during winter relative to the Normally Pressured Lance (NPL) natural gas development project in Sublette County, Wyoming. The NPL development project has the potential to include a maximum of 3,500 wells, some of which will occur in the Alkali Creek and Alkali Draw winter sage-grouse concentration areas (WCA) where large numbers of grouse utilize winter habitat. This population includes both residents of the local area and migratory individuals from surrounding areas in the Upper Green River Basin including grouse associated with leks within designated core area protection habitat. The record of decision from the Bureau of Land Management (which administers 96% of the NPL) provides for two development scenarios depending on the results of a study monitoring the response of sage-grouse as the development of the NPL is initiated. Our objectives were to monitor habitat selection and survival at the intersection of the NPL Development Area 1 and the WCAs (treatment), and surrounding areas unaffected by NPL development (control), to guide the development and post-development evaluation of the NPL project in an adaptive management framework. Between February 2019 and December 2022, we captured 263 female sage-grouse and equipped them with GPS transmitters. We have also received location data from 26 grouse equipped with GPS transmitters from a concurrent unrelated study. We have collected location and survival data for about 92,746 bird-days from 270 sage-grouse. Of these, we obtained 31,385 bird-days during winter (1 Dec–14 Mar). The GPS transmitters record between 4 and 61 locations per bird-day depending on the season and the model of transmitter. Of the grouse monitored, 52% were classified as treatment grouse and 48% as control grouse based on the distribution of their winter locations. Substantial areas of winter habitat were used outside the NPL-WCA study area by GPS-marked grouse caught within the NPL-WCA study area. The fidelity of winter range use from one year to the next was 76%. The median date of arrival to habitat associated with the NPL-WCA study area was 23 November and the median date of departure was 28 March. The survival probability was 0.880 (SE = 0.019) during winters 2018–2023. Our observations on grouse behavior and demographic rates over multiple winters with a variety of winter weather conditions have revealed a significant influence of winter weather on grouse behavior (e.g., timing of interseasonal movements) but little apparent effect on grouse survival or reproductive success. Seventy-five percent of the treatment grouse nested within designated core breeding areas to the north. We finished collecting pre-development data in July 2023. We are preparing a final report (in conjunction with Clawson Statistical Services LLC) detailing analyses of the factors affecting the survival and habitat selection of treatment and control grouse during the pre-development phase of the NPL. If funding becomes available, and dependent on future development plans, we are in a position to proceed with a monitoring study to determine if grouse are responding to lower-level development if development is substantially reduced from what was originally proposed, which will likely be the case according to Jonah Energy LLC. We will also be prepared to initiate a full study addressing all objectives with a before-after control-impact design if appropriate.

Sage-Grouse Winter Concentration Area (WCA) Delineation - Pinedale WGFD Region
April 19, 2023 - Summary for final development of WCA polygons

During 2019-2022 analysis work was conducted using documented winter sage-grouse observations (December 1 – March 15) to develop Resource Selection Function (RSF) models along with other potential methods to delineate WCA. Two reports are available from this data and RSF analysis work as identified below.

Millspaugh J. J., and Clawson M. V. 2020. Sage-Grouse Winter Concentration Modeling and Delineation for the Pinedale Region of Wyoming.

Millspaugh J. J., and Clawson M. V. 2022. Refinement of Sage-Grouse Winter Concentration Modeling and Delineation for the Pinedale Region of Wyoming.

Two RSF models from the most recent report (Millspaugh 2022) were determined as the best top models. One of the top models analyzed the data for the entire region (singular model), referred to as the "SageGrouse_RPA_2020_Top15%". The other top model analyzed data based on 3 individual areas (regional model), referred to as the "Regional_RPA_2020_Top30".

Regional field personnel evaluated both the singular and regional model outputs (maps) along with sage-grouse live observation points and sage-grouse global positioning system (GPS) transmitter points to develop final delineated WCA polygons. Over 95% of the observation data are from years 2004 -2022 and GPS data from 2014 to present. During this evaluation process, it was determined that the singular model (SageGrouse_RPA_2020_Top15%) fit the overall observation data better and was used as the primary model template for final WCA polygon development. The regional model map output was more extensive (larger area) with more habitat that did not include documented sage-grouse observations and therefore was not utilized for final development of WCA polygons.

WCA polygons were digitized at a fine scale using the singular model map output, imagery data, along with the observation and GPS data as mentioned above. These final WCA polygons both include and exclude some modeled habitat based on observation data points. In some instances, areas outside the modeled habitat were included if observation data points with larger flocks (>50 birds) were located near the modeled boundary. In addition, small (smaller than 1280 acres or 2 square miles) isolated modeled areas were not included. Overall, the WCA polygons are comprised of 47,031 fewer acres than the modeled habitat.

One existing WCA (Alkali Creek WCA) was designated in the Pinedale Region in 2015. This Alkali Creek WCA was also delineated from an RSF model, although not all the model designated/mapped area was included at that time and only the modeled habitat within the identified Normally Pressured Lance Gas Development Project (NPL) was designated. A similar evaluation was conducted using the past RSF model output from 2014 and sage-grouse locations (WOS observations and transmitters) to develop a revised and expanded Alkali Creek WCA polygon.

A total of 7 individual WCA polygons (7 areas combined = 239,471 acres) are identified and delineated for future designation consideration, these include the following:

- Elk Mountain South: 48,794 acres; 13,339 live birds – 4,477 max/yr (WOS); 179 GPS locations (1 loc/bird/day)
- East Fork: 52,472 acres; 17,176 live birds – 3,878 max/yr (WOS); 2,542 GPS locations (1 loc/bird/day)
- Two Buttes: 4,966 acres; 1,269 live birds – 382 max/yr (WOS); 139 GPS locations (1 loc/bird/day)
- West Mesa: 17,518 acres; 13,558 live birds – 3,866 max/yr (WOS); 2,705 GPS locations (1 loc/bird/day)
- Ryegrass/Grindstone: 20,208 acres; 8,604 live birds – 1,475 max/yr (WOS); 1,776 GPS locations (1 loc/bird/day)

- Meadow Canyon/Muddy: 23,184 acres; 4,268 live birds – 976 max/yr (WOS); 482 GPS locations (1 loc/bird/day)
- Alkali Creek Expanded: 72,329 acres; ~1700 max/yr (WOS); 10,145 GPS locations (1 loc/bird/day)

Sage-Grouse Working Group:

The UGRBWG was formed in March of 2004. The group is comprised of representatives from agriculture, industry, sportsmen, public at large, conservation groups, and government agencies (federal and state). The purpose of the UGRBWG is to work towards maintaining or improving sage-grouse populations in the Upper Green River basin. The group is directed to formulate plans, recommend management actions, identify projects, and allocate available funding to support projects that will benefit sage-grouse. The Upper Green River Basin Sage-Grouse Conservation Plan was finalized in May of 2007 and can be found on the WGFD website (https://wgfd.wyo.gov/Habitat/Sage-Grouse-Management). This plan identified past, proposed, and ongoing projects; recommended management activities; funding sources; and other relevant sage-grouse information within the UGRBWGA intended to maintain and/or increase sage-grouse populations. The Working Group completed an addendum to this 2007 plan (Upper Green River Basin Sage-Grouse Conservation Plan Addendum – 2014) that provides updated information on activities, projects, and management strategies within the UGRBWGA. Appropriation of State monies approved for sage-grouse projects during past years have been allocated to the UGRBWG for local conservation measures that benefit sage-grouse. Virtual fencing, research projects, and cheatgrass inventory/control projects account for the majority of allocated funds granted to the UGRBWG in recent years.

Management Summary:

Data collected and reported in this 2025 Sage-Grouse Job Completion Report (Jan thru Dec 2025) gives insight to population trends. Analysis of lek trend data indicates that the sage-grouse populations steadily increased from 2003 to 2007, dropped slightly in 2008, continued to decline through 2011, stabilized through 2014, increased significantly in 2015, followed by a relatively stable population in 2016 and 2017, population decline in 2018-2021, stabilized in 2022-2023, and increased in 2024 and 2025. Lek trend data suggest grouse populations were at the lowest level with the highest level occurring in 2007.

Lek monitoring in the UGRBWGA showed a 146% increase in the peak number of males per lek from 2003 to 2007 as males increased from 28 males/lek to 69 males/lek. This trend reversed after 2007, as the number of males/lek declined by 48% dropping to 36 males/lek by spring of 2014. During 2015, lek counts showed a 47% (53 males/lek) increase followed by an 8% increase in 2016, 4% decrease in 2017, 23% decrease in 2018, 21% decrease in 2019 a decrease of 9% in 2020 (30 males/lek), a continued decrease of 15% in 2021(25 males/lek), remained static in 2022 and 2023, and increased 56% (38 males/lek) and 11% (42 males/lek) in 2024 and 2025 respectively. Sage-grouse leks within developing gas fields continue to show declines and lek abandonment regardless of lek trends outside of gas development, indicating negative impacts to sage-grouse in and near natural gas field (Green et al. 2016, Holloran et al. 2005, Holloran et al. 2007, Kaiser 2006, Kirol et al. 2020, Pratt et al. 2023, Walker et al. 2007). Existing leks within non-core habitats and within gas development fields will be subject to further impacts.

Sage-grouse hunting season dates, season length, and bag limits have remained similar since 2002, running from mid to late September for 9-15 days with a daily bag limit of two birds and a possession limit of four birds. Although season length and bag limits have remained similar since 2002, overall harvest and hunter participation has varied somewhat, while some harvest metrics (# birds taken/day, and # days/hunter) have remained similar in past years. Overall hunter numbers have not shown a correlation with grouse trends as one would expect and has remained somewhat similar during the past 10-year period (**Figure 4)**. Variation in hunter participation can be affected by hunting season structure, weather conditions, population trends, and hunter perceptions of sage-grouse populations.

Wing collection from barrels (drop locations) continues to provide good sample sizes to determine overall chick survival trends within the UGRBWGA. During 2008-2025 wing collections ranged from 21% to 58% of the reported harvest. The sample size of 378 wings in 2025 accounted for 43% of the reported harvest. These annual wing samples can vary significantly based on weather conditions affecting hunter participation, especially during the weekend days of hunting season. Overall, some correlation exists between trends in wing sample sizes and harvest, and provides managers the most reliable data for determining annual reproductive rates in the UGRBWGA.

Trends in chicks/hen derived from wing collections continue to show a correlation with following year lek trends. An increase (or decrease) in the number of chicks/hens in the harvest typically results in similar trends documented on leks the following year(s). In general, a chick/hen ratio below 1.0 has shown declines in overall male lek attendance the following spring, 1.0 to 1.2 chicks/hen has shown stable attendance, and a chick/hen ratio greater than 1.2 has shown increases in lek attendance in the UGRBWGA. During the past 5 years (2021-2025) the chicks/hen ratio has varied from 0.6 to 1.8 and averaging 0.9 chicks/hen, correlating to little change from 2021-2023 and the recent increase in 2024 and 2025 in male lek attendance.

Above normal precipitation during 2004 and 2005 during key periods (specifically in the spring and early summer) contributed to increased sage-grouse numbers due to enhanced production and juvenile survival in the Upper Green River Basin. Declining chick survival was documented in 2006 and 2007 caused by spring and summer drought conditions in the Upper Green River Basin. Male sage-grouse lek numbers declined from 2007-2011 and remained stable from 2012-2014. Good to above average spring precipitation during 2008-2011 led to good herbaceous production, which should have helped turn around the recent declining trends in the UGRBWGA. It appears the cold temperatures during the spring of 2009 and 2010 impacted reproduction resulting in further declines in lek numbers in 2010. Spring moisture in 2011 resulted in very good habitat production, and most likely contributing to the slight increase in bird numbers documented during the spring of 2012. Drought conditions in 2012 and 2013 most likely attributed to poor chick survival as spring temperatures were near normal, resulting in little change on spring lek counts in 2014. In 2014, good forage production was the result of increased precipitation during the fall of 2013 and spring of 2014 which likely contributed to increased male lek counts in 2015. Although the winter of 2014-15 was mild with low precipitation, the spring of 2015 had above average precipitation, primarily attributed to a very wet May, apparently resulting in very good chick production. The 2015-2016 winter and 2016 spring conditions were very similar to the previous year with dry winter and wet spring conditions, but resulted in poor chick production and similar lek counts. The 2016-17 winter conditions were severe with heavy snow loads and cold temperatures followed by a dry spring, yet lek counts in 2017 were similar to those recorded in 2016. The 2017-18 winter was mild with low snow accumulations and above average temperatures followed by a relatively wet spring, and a decline in 2018 lek counts. The 2018-19 winter resulted in

late persistent snow and cold temperatures through the spring of 2019, and a decline in 2019 lek counts. The 2019-20 winter had average snow and cold temperatures with a slight decline in 2020 lek counts. The 2020-2021 winter had very low snow and average temperatures with a decline in 2021 lek counts. The 2021-2022 winter had below average snow and average temperatures followed by dry spring conditions and a slight decline in 2022 lek counts. The 2022-2023 winter had well above average snow and below average temperatures with similar 2023 lek counts. The 2023-2024 winter was very mild with below average snow and above average temperatures followed by average spring moisture and a significant increase in 2024 lek counts. The 2024-2025 winter was also very mild with below average snow followed by dry spring conditions and an increase in 2025 lek counts. The 2025 summer and fall conditions were dry with below average upland forage production. The predictability of factors that determine nest success and chick survival remains complex and is likely more dynamic than just climate conditions such as precipitation and temperature trends, although cold and wet weather events around nest hatch appears to influence chick production and survival in the UGRBWGA located at relatively higher elevation than most other breeding habitat range-wide.

The current amount and rate of natural gas development in the Upper Green River Basin has and will continue to impact sage-grouse habitat and localized populations. Lek monitoring data has shown lower male attendance and a high rate of lek abandonment within and adjacent to developing gas fields. Sage-grouse studies and research conducted in the UGRBWGA has also documented impacts to grouse from gas development (Doherty el al. 2008, Green et al. 2016, Holloran et al. 2006, Holloran et al. 2007, Kaiser 2006, Kirol et al. 2020, Walker et al. 2007). Direct, indirect, and cumulative impacts to sage-grouse from gas and residential development will continue to challenge managers to maintain current grouse numbers.

Recommendations:

1. Continue to monitor sage-grouse leks and look for new and previously undocumented ones.

2. Continue to monitor and provide input on natural gas development/sage-grouse projects being conducted.

3. Continue to place wing barrels in enough locations to obtain an adequate and representative sample to derive sex/age and harvest trend information.

4. Continue existing efforts and encourage new efforts to document and identify important sage-grouse areas (breeding, brood rearing, and winter).

5. Continue to work with GIS personnel and land managers to create and update seasonal range maps (breeding, summer/fall, and winter) to aid land managers in protecting and maintaining important sage-grouse habitats. Delineation of winter concentration areas will be a priority.

6. Continue to identify needed sage-grouse research, data collection efforts, project proposals, development mitigation, and funding.

7. Implement proposals and management recommendations identified in the Upper Green River Basin Sage-Grouse Working Group Conservation Plan and Plan Addendum where possible.

Literature Cited:

Doherty, K.E., D.E. Naugle, B.L. Walker, J.M. Graham. 2008. Greater sage-grouse winter habitat selection and energy development. Journal of Wildlife Management. 72-1.

Fedy, B. C. and K. E. Doherty. 2010. Population cycles are highly correlated over long time series and large spatial scales in two unrelated species: greater sage-grouse and cottontail rabbits. Oecologia 165:915-924.

Fedy, B. C. and C. L. Aldridge. 2011. The importance of within-year repeated counts and the influence of scale on long-term monitoring of sage-grouse. Journal of Wildlife Management 75(5): 1022-1033.

Green, A.W., C.L. Aldridge, and M.S. O'Donnell. 2016. Investigating Impacts of Oil and Gas Development on Greater Sage-Grouse. Journal of Wildlife Management. DOI: 10.1002/jwmg.21179.

Holloran, M. J. 2005. Greater sage-grouse (Centrocercus urophasianus) population response to natural gas field development in western Wyoming. Dissertation. University of Wyoming, Laramie, USA.

Holloran, M. J., R. C. Kaiser, and W. A. Hubert. 2007. Population response of yearling greater sage-grouse to the infrastructure of natural gas fields in southwestern
Wyoming. Completion report. Wyoming Cooperative Fish and Wildlife Research Unit, Laramie, WY, USA.

Kaiser, R. C. 2006. Recruitment by greater sage-grouse in association with natural gas development in western Wyoming. Thesis. University of Wyoming. Laramie, USA.

Kirol, C.P., K.T. Smith, N.E. Graf, J.B. Dinkins, C.W. LeBeau, T.L. Maechtle, A.L. Sutphin, J.L. Beck. 2020. Greater Sage-Grouse Response to the Physical Footprint of Development. Journal of Wildlife Management. DOI: 10.1002/jwmg.21854

Pratt, A.C., J.J. Millspaugh, and J.L. Beck. 2023. Adaptive management of the Normally Pressured Lance Natural Gas Development Project for greater sage-grouse: 2023 progress report for pre-development data collection.

Walker, B.L., D. E. Naugle, and K.E. Doherty. 2007. Greater sage-grouse population response to energy development and habitat loss. Journal of Wildlife Management 71:2644-2654.

Whitford, N. W. Bish. 2022. Chapter 12: Sage-Grouse (*Centrocercus urophasianus*). Pages 12-1 to 12-43 in Handbook of Biological Techniques: third edition. Wyoming Game and Fish Department. Cheyenne, WY.

Upper Snake River Basin

Job Completion Report

Prepared By: Alyson Courtemanch, North Jackson Wildlife Biologist

Period Covered: 1-1-2025 to 12-31-2025

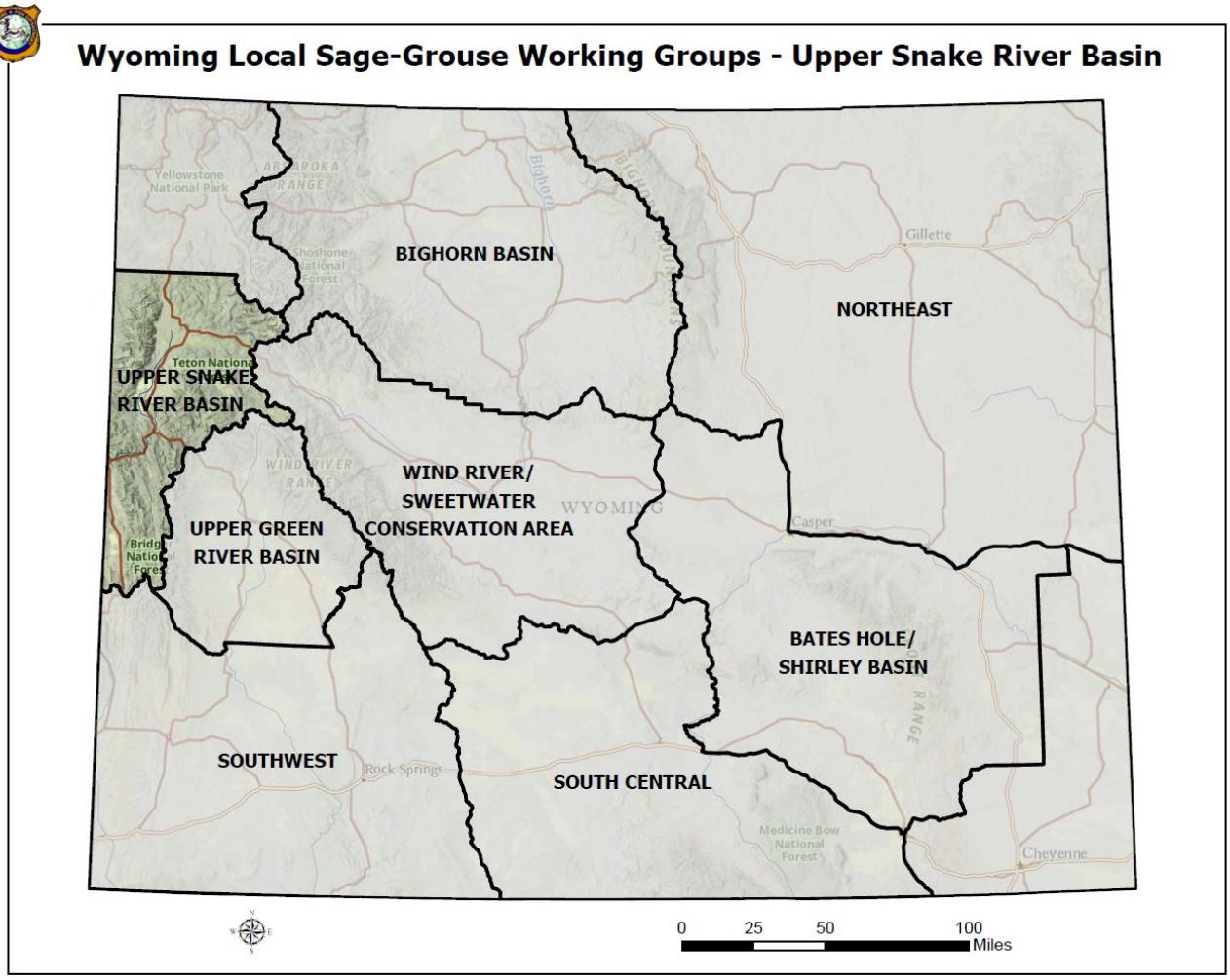


Table 1: Sage-Grouse Lek Characteristics

	Group	N	Percent
BLM Office			
	Pinedale	19	100%
Biologist			
	Jackson	19	100%
Classification			
	Occupied	12	63.2%
	Undetermined	1	5.3%
	Unoccupied	6	31.6%
County			
	Teton	19	100%

	Group	N	Percent
Land Status			
	National Park	13	68.4%
	USFS	3	15.8%
	USFWS	3	15.8%
Lek Status			
	Active	9	47.4%
	Inactive	9	47.4%
	Unknown	1	5.3%
Management Area			
	A	19	100%
Region			
	Jackson	19	100%
Warden			
	North Jackson	17	89.5%
	South Jackson	2	10.5%

Table 2: Leks Counted

Year	Occupied	Counted	Percent Counted	Peak Males	Average Peak Males
2016	14	14	100%	215	21.5
2017	13	13	100%	158	17.6
2018	13	13	100%	95	11.9
2019	13	13	100%	52	5.8
2020	13	12	92.3%	67	8.4
2021	13	13	100%	53	8.8
2022	12	12	100%	70	11.7
2023	12	12	100%	93	11.6
2024	12	12	100%	79	8.8
2025	12	12	100%	101	11.2

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 3: Leks Surveyed

Year	Occupied	Surveyed	Percent Surveyed
2016	14	0	0%
2017	13	0	0%
2018	13	0	0%
2019	13	0	0%
2020	13	0	0%
2021	13	0	0%
2022	12	0	0%
2023	12	0	0%
2024	12	0	0%
2025	12	0	0%

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 4: Leks Checked

Year	Occupied	Checked	Percent Checked	Peak Males	Average Peak Males
2016	14	14	100%	215	21.5
2017	13	13	100%	158	17.6
2018	13	13	100%	95	11.9
2019	13	13	100%	52	5.8
2020	13	12	92.3%	67	8.4
2021	13	13	100%	53	8.8
2022	12	12	100%	70	11.7
2023	12	12	100%	93	11.6
2024	12	12	100%	79	8.8
2025	12	12	100%	101	11.2

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 5: Lek Status of Leks Checked

Year	Active	Inactive	Unknown	Known Status	% Active	% Inactive
2016	10	4	0	14	71.4%	28.6%
2017	9	4	0	13	69.2%	30.8%
2018	9	4	0	13	69.2%	30.8%
2019	9	4	0	13	69.2%	30.8%
2020	8	4	0	12	66.7%	33.3%
2021	6	7	0	13	46.2%	53.8%
2022	7	5	0	12	58.3%	41.7%
2023	8	4	0	12	66.7%	33.3%
2024	9	3	0	12	75%	25%
2025	9	3	0	12	75%	25%

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Inactive - Confirmed no birds/sign present (see official definitions)

Table 6. Maximum male counts at leks in the Upper Snake River Basin Conservation Area, 1995-2024. "NC" denotes the lek was not checked that year, "0" denotes the lek was checked but no birds were seen, and grey cells denote the lek had not been discovered yet.

	Lek ID number																				
Year	1932	1933	1934	1935	1936	1937	1938	1939	6897	1941	1942	1943	1944	1945	1946	1947	6898	1948	1949	Total Peak Males	# males/ active lek
1990	NC	52		10	8		NC				10	49	63	22	NC					214	30.6
1991	NC	63		10	16		NC				15	26	48	29	NC					207	29.6
1992	NC	51		8	16		NC				12	58	37	21	NC					203	29.0
1993	NC	37		5	8		21				16	23	24	9	54					197	21.9
1994	NC	NC		NC	NC		NC				27	50	NC	7	NC					84	28.0
1995	NC	18		4	10		15				6	59	4	6	NC					122	15.3
1996	NC	18		2	8		8				4	32	1	19	NC					92	11.5
1997	NC	15		0	1		1				6	0	48	10	NC					81	13.5
1998	NC	14		0	0		0				4	29	0	7	NC					54	13.5
1999	NC	17		0	0		0				0	21	0	9	NC					47	15.7
2000	NC	18		0	NC		NC	21			0	28	0	5	NC					72	18.0
2001	NC	15		0	NC		NC	19			0	30	0	6	NC					70	17.5
2002	NC	19		0	NC		24	9			0	28	0	4	NC					84	16.8
2003	NC	25		0	NC		0	7			0	35	0	3	NC				8	78	15.6
2004	NC	17		0	2		0	14			0	54	0	4	NC				15	106	17.7
2005	NC	17		0	NC		0	16		6	NC	49	0	18	NC				17	123	20.5
2006	NC	23	6	0	0		4	21		9	0	44	0	30	0				20	157	19.6
2007	0	23	0	NC	1		NC	30		4	1	41	0	9	0			4	20	133	14.8
2008	0	16	0	NC	2	8	0	22		13	0	38	0	23	NC	12		5	26	165	16.5
2009	NC	10	2	0	5	NC	0	21		1	0	33	0	11	0	15		4	22	124	12.4
2010	NC	10	0	0	24	0	0	24		4	0	40	0	13	0	13		5	18	151	16.8
2011	0	11	0	0	0	10	0	5		0	0	27	0	21	0	10		15	0	99	14.1
2012	0	17	0	0	3	NC	0	14		0	0	44	14	18	3	8		0	7	128	14.2
2013	NC	17	0	0	0	0	NC	14		5	NC	46	NC	8	0	6		24	16	136	17.0
2014	NC	11	3	NC	10	0	NC	18		0	NC	61	NC	21	0	8		8	16	156	17.3
2015	NC	12	0	NC	0	11	NC	27		0	0	103	NC	10	0	21		15	11	210	26.3
2016	NC	7	0	0	0	13	0	34		8	0	21	53	7	0	48		6	18	215	21.5
2017	NC	10	0	NC	0	4	NC	22		0	0	36	46	4	0	15		5	16	158	17.6
2018	NC	13	0	NC	0	7	NC	8		0	NC	28	0	6	0	16		5	12	95	11.9
2019	NC	8	0	NC	0	1	NC	7		0	NC	14	5	1	0	8		1	7	52	5.8
2020	NC	7	0	NC	0	6	NC	3		0	NC	24	0	12	0	4		4	7	67	8.4
2021	NC	3	0	NC	0	0	NC	7		0	NC	22	0	1	0	10		0	10	53	8.8
2022	NC	2	0	NC	0	0	NC	4		0	0	23	0	0	0	20		6	15	70	11.7
2023	NC	2	0	NC	0	12	NC	3		0	NC	27	0	3	0	19		7	20	93	11.6
2024	NC	3	0	NC	0	0	NC	4	4	0	0	23	0	7	0	11	2	8	19	77	10.7
2025	NC	3	0	NC	0	0	NC	6	5	0	0	33	0	8	0	10	3	5	28	101	11.2
Max	0	25	6	2	24	13	24	34	5	13	6	103	53	30	3	48	3	24	28	215	26.25

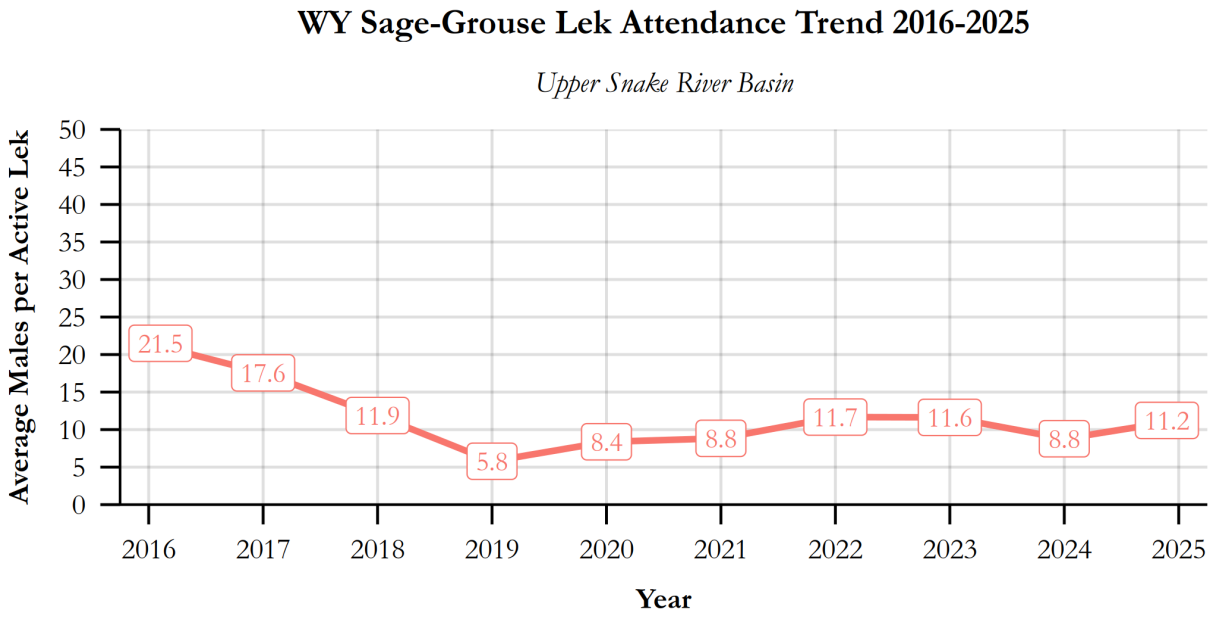


Figure 1: Average Peak Males

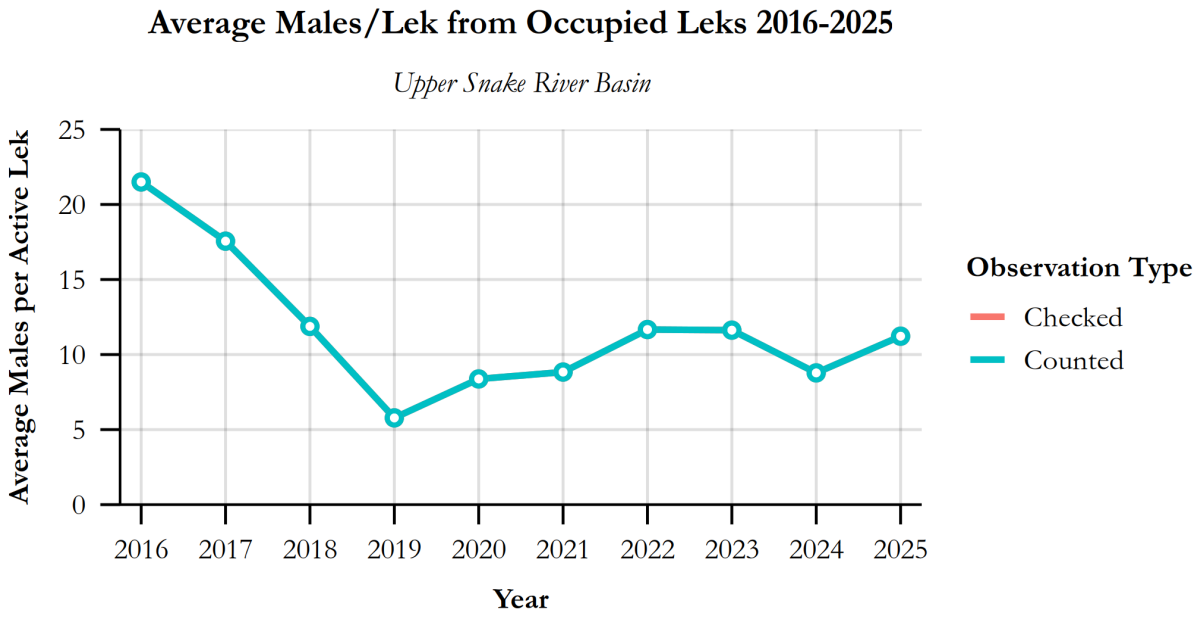


Figure 2: Average Peak Males

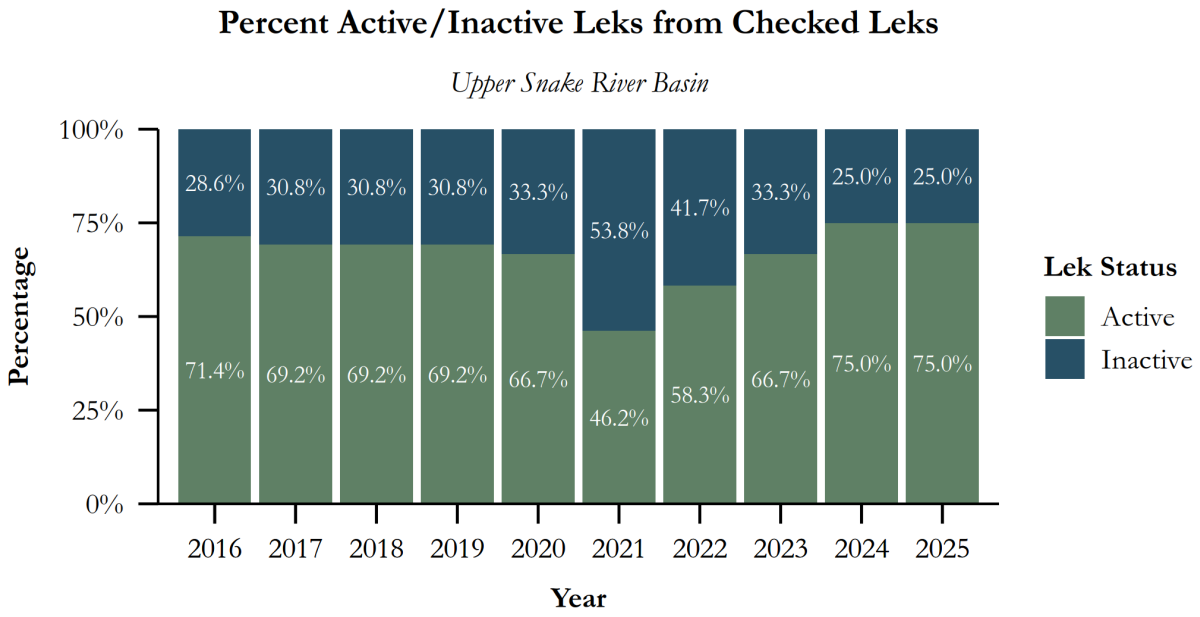


Figure 3: Lek Status

Lek Monitoring:

Sage-grouse data collection in the Upper Snake River Basin Conservation Area (USRBCA) focuses on lek counts. A total of 19 leks are currently documented in the USRBCA. Of these leks, 12 are occupied, six are unoccupied, and one is undetermined (**Table 1**). During 2025, a total of 16 leks were checked (84%) and all occupied leks were checked (100%). All leks in the USRBCA are on public lands in Grand Teton National Park (GTNP), National Elk Refuge (NER), or Bridger-Teton National Forest. Biologists from the respective agencies, WGFD, Teton Raptor Center, and working group members cooperatively monitor leks. Of those leks that are occupied, nine were active and three were inactive (**Table 5**, **Figure 3**). The average number of males per active lek increased from 8.8 in 2024 to 11.2 in 2025 (**Table 4**, **Figure 1**). The peak males increased from 79 in 2024 to 101 in 2025 (**Table 4**). Although there was a slight increase this year, the peak males are still 53% below the last population peak in 2015 and 2016 (**Table 4**) and the average number of males per lek is 48% below the last peak (**Table 4**). This population declined dramatically in 2018 and 2019 and has not recovered.

Starting in 2005, lek counts in GTNP and to some extent on the NER, were coordinated to occur on the same days when it was logistically possible. This is based on movement data from radio-marked sage-grouse and genetic data that indicates all leks in the Jackson Hole valley constitute a sub-population and the leks in the Gros Ventre drainage constitute a second sub-population. No marked birds from the Gros Ventre leks have appeared on the Jackson Hole leks (Holloran and Anderson 2004, Bryan Bedrosian *pers. comm.*) and there is no evidence of current genetic flow from the Gros Ventre to Jackson Hole (Schulwitz et al. 2014).

Local working group lek count method for total peak males

Previous research on GPS-tagged sage-grouse has indicated that individual males move between leks throughout the season in Jackson Hole (leks in GTNP and NER). There is no evidence that birds move between the Jackson Hole leks and the Gros Ventre leks. Because of this known movement between leks, the local working group is concerned that the WGFD method of using the high male count at each lek regardless of day results in double-counting birds and inflated numbers. Therefore, the local working group has coordinated lek counts to occur on the same day of the week for all Jackson Hole leks (n=12). Attempts are made to also count Gros Ventre leks (n=3) on the same day as Jackson Hole, however, access to those leks can be difficult and must be scheduled on days with optimal weather and road conditions. When compared to the high male count using WGFD methodology, the local method is always lower but follows similar trends over time. For example, this year, the total peak males was 97 using the local method (88 males on Jackson Hole leks plus 9 males in the Gros Ventre) compared to 101 with the WGFD method. In 2025, the difference was small, however in some years it can be ~20% lower than the WGFD method. When the population is at very low numbers, the working group feels that using the local method better reflects true numbers and is important to demonstrate how concerningly low the numbers actually are. We recognize this method is not feasible in most other places due to the large number of leks, however, it is possible with the smaller numbers of leks in the Upper Snake River Basin Area.

New leks in the Gros Ventre drainage

Two potential new leks were discovered in 2024 in the Gros Ventre drainage, one on the west end of Bacon Ridge and one near the Soda Lake Road junction. The Bacon Ridge site is inaccessible from the ground during lekking season due to high water flows in both Fish Creek and the Gros Ventre River. Therefore, we deployed 3 automated recording units (ARUs) and game cameras at the Bacon Ridge site in March 2024 and March 2025 with the aim of detecting and counting birds. We accessed this site while rivers were still frozen and passable to attempt to detect strutting sage-grouse either by photos or sound recordings. The ARUs were funded by Teton Conservation District and the data were analyzed by Teton Raptor Center. The ARUs were programmed to begin recording on April 1. The ARUs and game cameras were mounted on t-posts that were located in three different directions from the potential lek site and ranged from 75-120 meters away. The area has rolling topography, so we located the t-posts on raised areas away from drifted snow. We also continued helicopter surveys of the area during the lekking season in 2024 and 2025 but were not able to locate strutting sage-grouse. In 2024, the ARUs detected many occasions of strutting male display sounds, calls, hen calls, and flapping wings. Some instances were very close to the ARUs and some farther away. There were multiple males detected, however, the recordings could not distinguish a number. Unfortunately, no birds were observed on the trail cameras. This could be due to birds strutting behind the cameras because the exact location of the lek is unknown. The area has rolling topography with relatively tall sagebrush, therefore birds could be obscured from the cameras. In 2025, ARUs were deployed again, however they malfunctioned and did not collect data. We plan to deploy ARUs and cameras again in 2026 and continue to conduct helicopter flights with the aim of obtaining an accurate lek location and number of birds. At this time, this Bacon Ridge potential lek is not confirmed and therefore not included in the WGFD database.

During our 2024 helicopter survey during the lekking season, we observed two males strutting approximately ½ mile north of the junction of the Soda Lake Road and Gros Ventre Road in an area that previous wildlife biologist, Doug Brimeyer, had observed sporadic strutting males in the early 2000s but could not confirm a lek. In 2025, two ARUs were deployed at the site however they malfunctioned and did not collect data. This site is accessible from the ground, so ground observations

were conducted twice and it was also observed from the helicopter. A maximum of three males were observed in 2025. This new lek has been added to the WGFD database.

New lek in Grand Teton National Park

Four strutting male sage-grouse were observed at a new site near Ditch Creek in GTNP in 2024. Grand Teton National Park staff conducted multiple visits in 2024 and observed grouse each time. Females were also present and were observed digging in the dirt, suggesting this could be a geophagy site. The site was visited multiple times in 2025 with a maximum of five males and four females observed. This new lek has been added to the WGFD database.

Historical McBride lek restoration

In 2025, GTNP also continued a project south of the Jackson Hole Airport to hopefully establish a new lek and improve nesting and brood-rearing habitat near the historical McBride lek by doing vegetation treatments (eradicating smooth brome, treating weeds, and reseeding with native grasses and forbs), followed by using sage-grouse decoys and broadcast calls to lure birds to the area. The goal of this project is to offset impacts to the Airport lek and reduce the risk of plane strikes by enticing sage-grouse to shift their use away from the Airport to the area of the historical McBride lek. Sage-grouse decoys were deployed in 2025. Staff from GTNP conducted six ground surveys and deployed game cameras, however no sage-grouse were observed this year.

Production:

No productivity data were collected on the population this year.

Harvest:

There are no sage-grouse hunting seasons in the USRBCA.

Habitat:

Pack Trail Fire

The Pack Trail Fire burned approximately 90,000 acres between Togwotee Pass and the Gros Ventre drainage from August–October, 2024. It burned approximately 3,000 acres of sage-grouse core area in the Gros Ventre drainage, mostly around Bacon Ridge, Fish Creek, and Cottonwood Creek. It burned within two miles of the Breakneck lek and ½ mile of the potential new Bacon Ridge lek. The primary concern from the fire will be new infestations of cheatgrass and/or other weeds in sage-grouse habitat. We are working with Bridger-Teton National Forest, Teton County Weed and Pest District, and Teton Conservation District on surveying and mapping weeds for treatment. The local working group granted funds to Teton County Weed and Pest District in 2025 for surveying and treating weeds via horseback in the Pack Trail Fire, focusing on areas within sage-grouse core area. Several areas were surveyed and treated in 2025 with additional work scheduled for 2026.

Disease:

No disease data were collected on the population this year. No dead sage-grouse were found to test for highly pathogenic avian influenza (HPAI).

Conservation Planning:

The Upper Snake River Basin Sage-Grouse Conservation Plan was updated in March 2014 and can be found on the Wyoming Game and Fish Department (WGFD) website at:

https://wgfd.wyo.gov/wyoming-wildlife/sage-grouse-management/sage-grouse-local-working-groups

The Upper Snake River Basin Sage-Grouse Working Group met several times during the reporting period to plan lek monitoring schedules, review lek survey data, discuss and fund special projects, and review other issues affecting sage-grouse in the area.

Management Recommendations:

Following a population rebound in 2015 and 2016, the population underwent a significant decline from 2019-2021. Lek counts in spring 2019 were the lowest on record for this population. Numbers have increased slightly in recent years, but the population remains very low (~50% below the last population peak). Data collection and monitoring efforts continue at the local level. The Upper Snake River Basin Local Working Group has continued to voice concerns about this population at SGIT meetings and to WGFD.

Limited winter habitat continues to be the primary issue for this population. Therefore, protecting winter habitat is a priority. Continued documentation of sage-grouse distribution and habitat condition would be helpful to confirm seasonal distribution, movements, and habitat use. Key areas on public lands used by sage-grouse should be protected from management actions which could have adverse impacts on that habitat, including recreation disturbance. Wildfire suppression should be considered in occupied sage-grouse habitat in Jackson Hole and the Gros Ventre drainage. Restoration of native sagebrush habitats on former hayfields in GTNP and the Gros Ventre drainage appears to have the greatest potential to expand sage-grouse in the USRBCA. Protecting sagebrush habitat on private lands from rapidly expanding residential development is also important. Sagebrush restoration on private lands may also be an option in the future.

Specific actions include:

1. Continue to help coordinate lek surveys across jurisdictional boundaries.

2. Continue coordinating with other agencies to ensure periodic monitoring of historic, unoccupied or inactive leks.

3. Prioritize conducting counts on two new leks discovered in 2024 (1 in GTNP and 1 in Gros Ventre drainage) and one potential new lek in the Gros Ventre drainage. Continue to search for new leks.

4. Work with partners to address impacts on sage-grouse core area from the Pack Trail Fire.

5. Work with Bridger-Teton National Forest to incorporate sage-grouse habitat protections in the new Forest Plan.

6. Continue to support GTNP's sagebrush habitat restoration projects in the Kelly Hayfields project and McBride lek project south of the Jackson Hole Airport.

7. Continue to work with land management agencies during the implementation of habitat improvement projects to minimize impacts to sage-grouse occupied habitats.

8. Implement the USRBWG Sage-Grouse Conservation Plan (2014). Work to implement the strategies and projects identified in the plan.

Wind River/Sweetwater River

Job Completion Report

Prepared By: Stan Harter, Lander Wildlife Biologist

Period Covered: 1-1-2025 to 12-31-2025

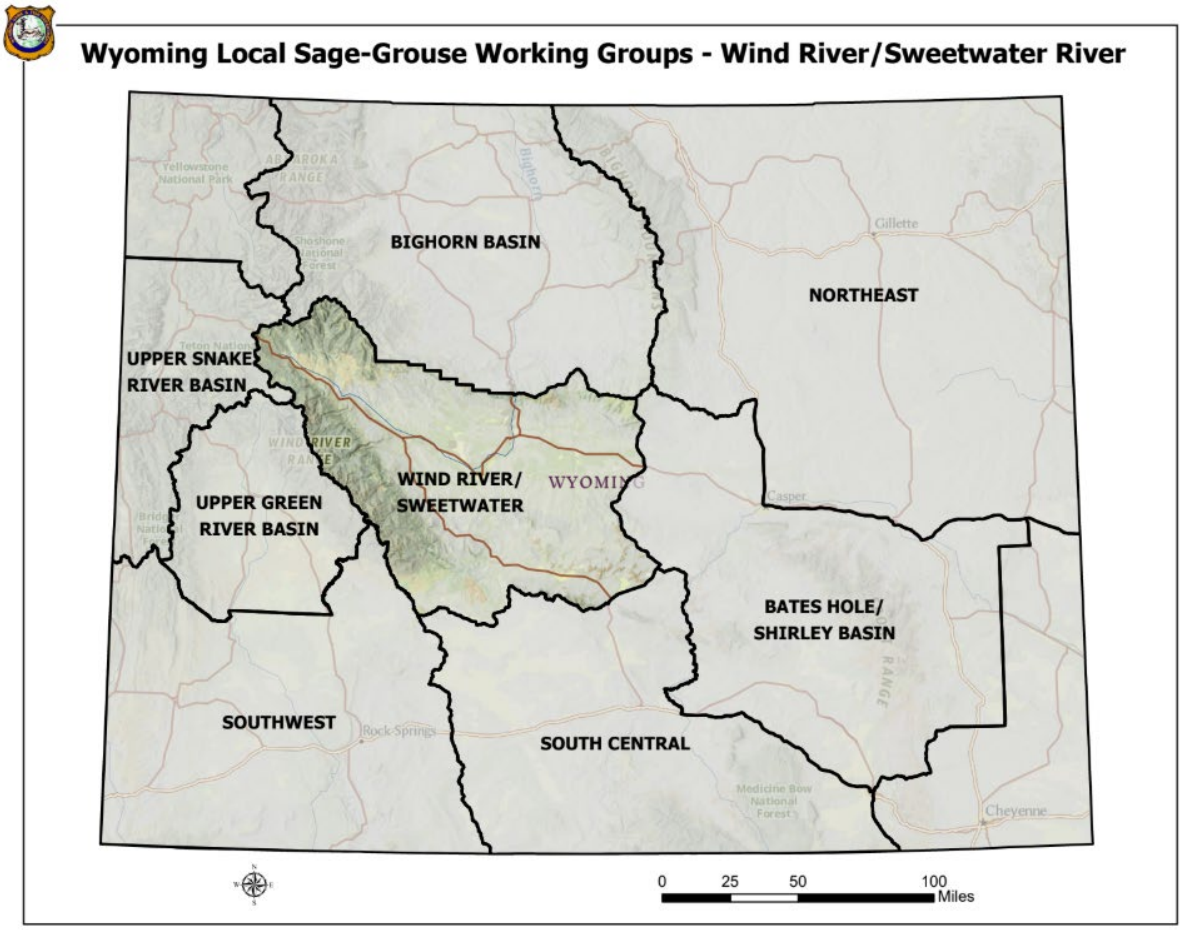


Table 1: Sage-Grouse Lek Characteristics

	Group	N	Percent
BLM Office			
		62	22.4%
	Casper	12	4.3%
	Lander	194	70%
	Rock Springs	7	2.5%
	Worland	2	0.7%
Biologist			
		62	22.4%
	Casper	2	0.7%
	Dubois	69	24.9%
	Lander	142	51.3%
	Sinclair	1	0.4%
	Worland	1	0.4%
Classification			
	Occupied	211	76.2%
	Undetermined	18	6.5%
	Unoccupied	48	17.3%
County			
	Carbon	1	0.4%
	Fremont	245	88.4%
	Hot Springs	4	1.4%
	Natrona	26	9.4%
	Sweetwater	1	0.4%

	Group	N	Percent
Land Status			
	BLM	166	59.9%
	BOR	4	1.4%
	Private	31	11.2%
	Reservation	60	21.7%
	State	16	5.8%
Lek Status			
	Active	155	56%
	Inactive	50	18.1%
	Unknown	72	26%
Management Area			
	E	215	77.6%
	WR	62	22.4%
Region			
	Casper	2	0.7%
	Lander	213	76.9%
	WRIR	62	22.4%
Warden			
	Shoshone-Arapahoe Tribal	62	22.4%
	Dubois	1	0.4%
	Lander	81	29.2%
	North Riverton	27	9.7%
	South Riverton	65	23.5%
	West Casper	2	0.7%
	West Rawlins	39	14.1%

Table 2: Leks Counted

Year	Occupied	Counted	Percent Counted	Peak Males	Average Peak Males
2016	213	95	44.6%	4,694	55.2
2017	208	87	41.8%	3,499	44.3
2018	210	110	52.4%	3,678	38.7
2019	207	97	46.9%	2,416	31.4
2020	205	104	50.7%	2,181	26.3
2021	203	85	41.9%	1,503	23.1
2022	204	108	52.9%	2,264	28.7
2023	208	69	33.2%	1,620	31.8
2024	215	126	58.6%	4,107	39.9
2025	215	108	50.2%	4,226	47.0

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 3: Leks Surveyed

Year	Occupied	Surveyed	Percent Surveyed	Peak Males	Average Peak Males
2016	213	105	49.3%	2,748	33.9
2017	208	103	49.5%	2,542	33.4
2018	210	87	41.4%	1,402	22.3
2019	207	100	48.3%	1,195	17.1
2020	205	68	33.2%	605	15.1
2021	203	105	51.7%	874	14.3
2022	204	88	43.1%	723	14.8
2023	208	118	56.7%	2,070	27.6
2024	215	68	31.6%	1,341	31.2
2025	215	86	40%	1,790	31.4

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 4: Leks Checked

Year	Occupied	Checked	Percent Checked	Peak Males	Average Peak Males
2016	213	200	93.9%	7,442	44.8
2017	208	190	91.3%	6,041	39.0
2018	210	197	93.8%	5,080	32.2
2019	207	197	95.2%	3,611	24.6
2020	205	172	83.9%	2,786	22.7
2021	203	190	93.6%	2,377	18.9
2022	204	196	96.1%	2,987	23.3
2023	208	187	89.9%	3,690	29.3
2024	215	194	90.2%	5,448	37.3
2025	215	194	90.2%	6,016	40.9

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Average Peak Males - Includes only those leks where one or more strutting males were observed. Does not include "Active" leks where only sign was documented

Table 5: Lek Status of Leks Checked

Year	Active	Inactive	Unknown	Known Status	% Active	% Inactive
2016	168	11	21	179	93.9%	6.1%
2017	156	8	26	164	95.1%	4.9%
2018	158	14	25	172	91.9%	8.1%
2019	148	20	29	168	88.1%	11.9%
2020	126	21	25	147	85.7%	14.3%
2021	128	21	41	149	85.9%	14.1%
2022	130	30	36	160	81.2%	18.8%
2023	126	19	42	145	86.9%	13.1%
2024	147	18	29	165	89.1%	10.9%
2025	148	21	25	169	87.6%	12.4%

Occupied - Must have been active once during previous 10 years, calculated based on the official definitions

Inactive - Confirmed no birds/sign present (see official definitions)

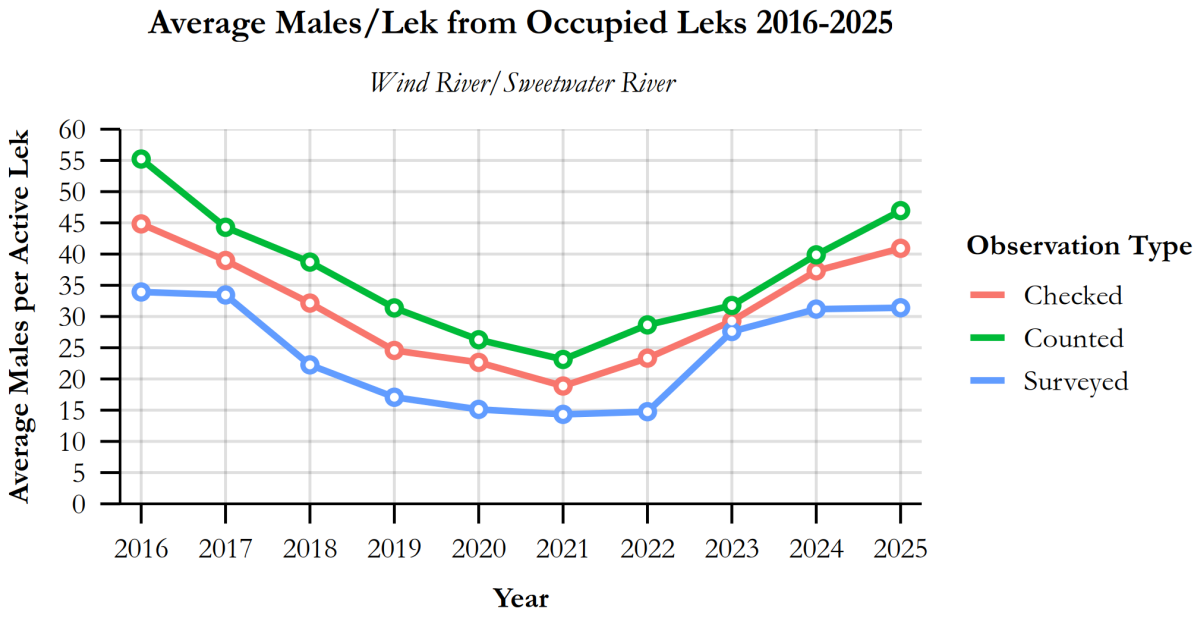


Figure 1: Average Peak Males

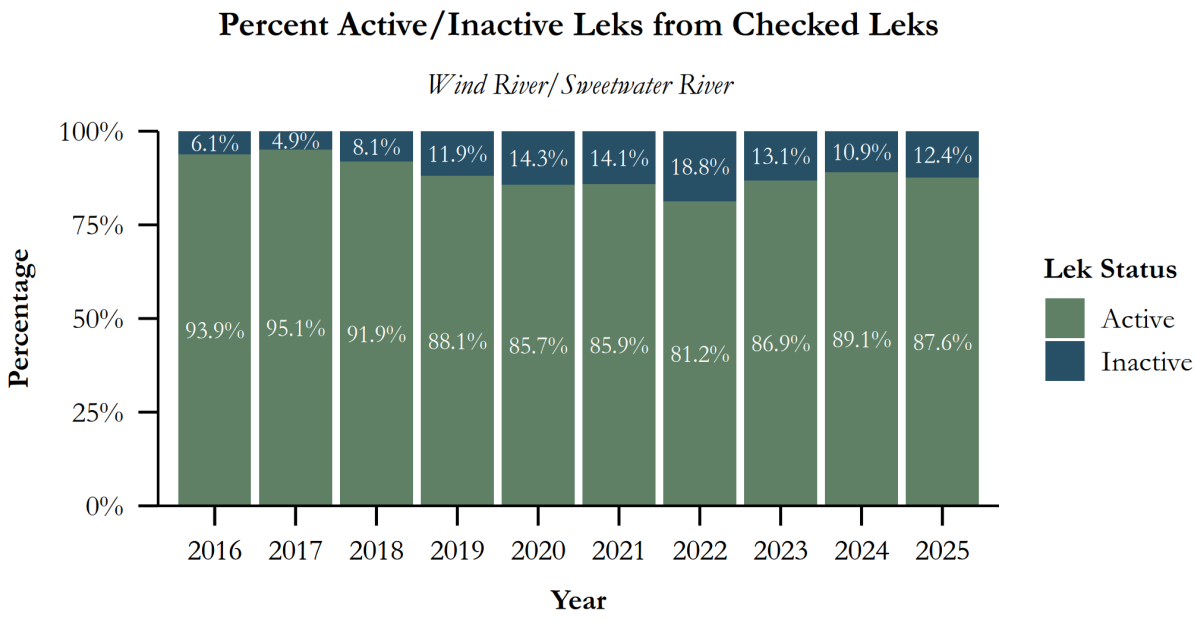


Figure 2: Lek Status

Table 6: Hunting Seasons

Year	Season Start	Season End	Length	Bag/Possession Limit
2016	Sep-17	Sep-30	14	2/4
2017	Sep-16	Sep-30	15	2/4
2018	Sep-15	Sep-30	16	2/4
2019	Sep-21	Sep-30	10	2/4
2020	Sep-19	Sep-30	12	2/4
2021	Sep-18	Sep-30	13	2/4
2022	Sep-17	Sep-30	14	2/4
2023	Sep-16	Sep-30	15	2/4
2024	Sep-21	Sep-30	10	2/4
2025	Sep-20	Sep-30	11	2/4

Table 7: Harvest Totals

Year	Harvest	Hunters	Days	Birds/Day	Birds/Hunter	Days/Hunter
2016	1,910	922	2,264	0.8	2.1	2.5
2017	1,364	630	1,427	1.0	2.2	2.3
2018	2,250	970	2,519	0.9	2.3	2.6
2019	1,525	814	1,891	0.8	1.9	2.3
2020	1,115	610	1,767	0.6	1.8	2.9
2021	1,141	783	2,027	0.6	1.5	2.6
2022	2,337	1,209	2,991	0.8	1.9	2.5
2023	1,650	749	1,921	0.9	2.2	2.6
2024	1,506	725	1,565	1.0	2.1	2.2
2025	1,412	789	1,627	0.9	1.8	2.1
Average	**1,621**	**820**	**2,000**	**0.8**	**2.0**	**2.5**

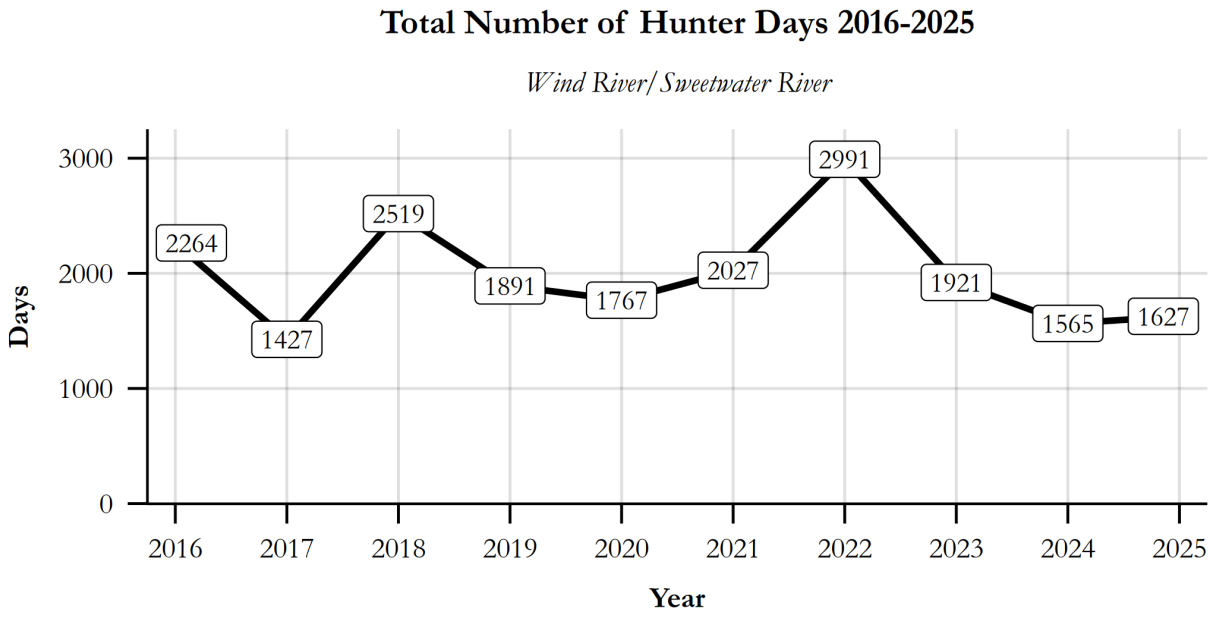


Figure 3: Harvest Days

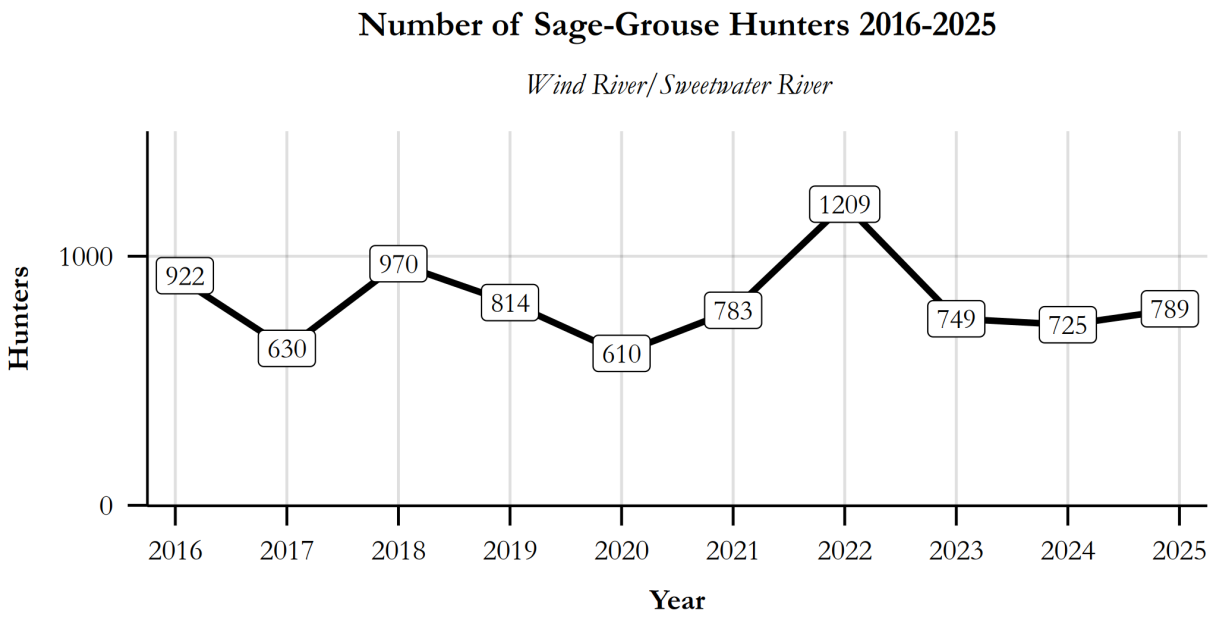


Figure 4: Hunters

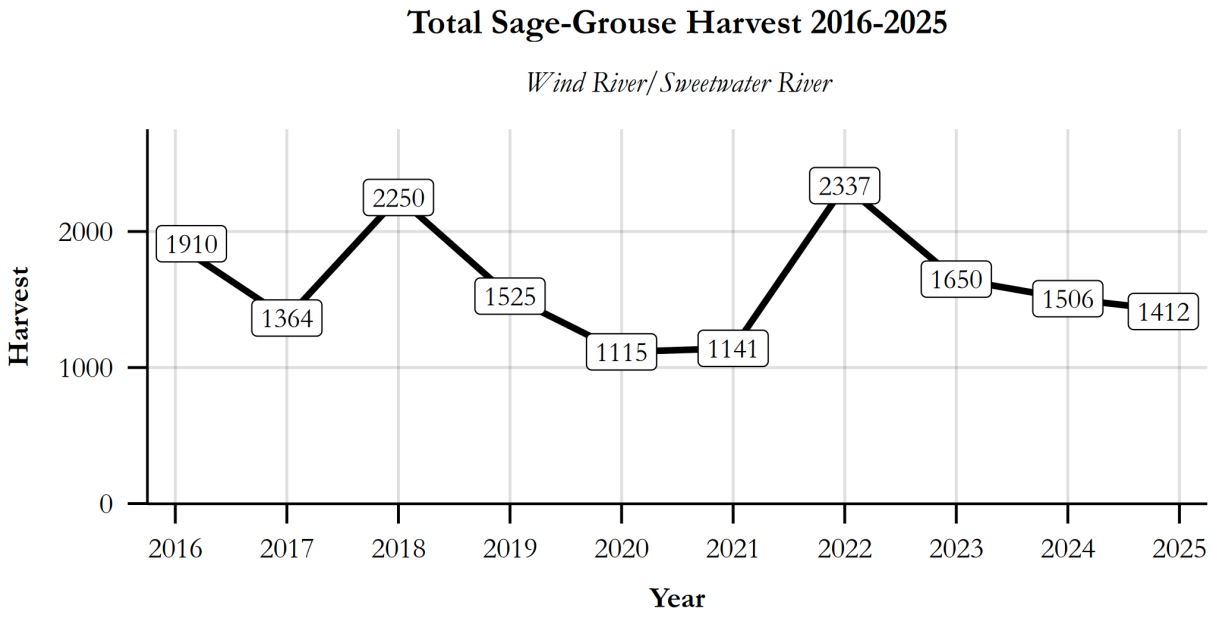


Figure 5: Total Harvest

Table 8: Harvest Composition

		Percent Adult		Percent Yearling		Percent Chick		
Year	Sample Size	Male	Female	Male	Female	Male	Female	Chicks/Hens
2016	307	16.9%	29.6%	3.9%	11.1%	16.9%	21.5%	0.9
2017	393	18.8%	28.5%	2.8%	2%	20.9%	27%	1.6
2018	520	17.9%	29%	6.5%	10.4%	13.7%	22.5%	0.9
2019	311	14.5%	22.5%	4.2%	10%	19%	29.9%	1.5
2020	390	12.8%	27.9%	5.1%	9%	17.4%	27.7%	1.2
2021	289	6.2%	34.6%	3.1%	8%	14.2%	33.9%	1.1
2022	285	9.1%	30.9%	2.5%	7.4%	21.8%	28.4%	1.3
2023	503	9.1%	17.1%	5.2%	10.1%	21.5%	37%	2.1
2024	626	15%	16.9%	8.6%	9.7%	24%	25.6%	1.9
2025	556	19.4%	22.8%	6.8%	8.3%	19.8%	22.8%	1.4

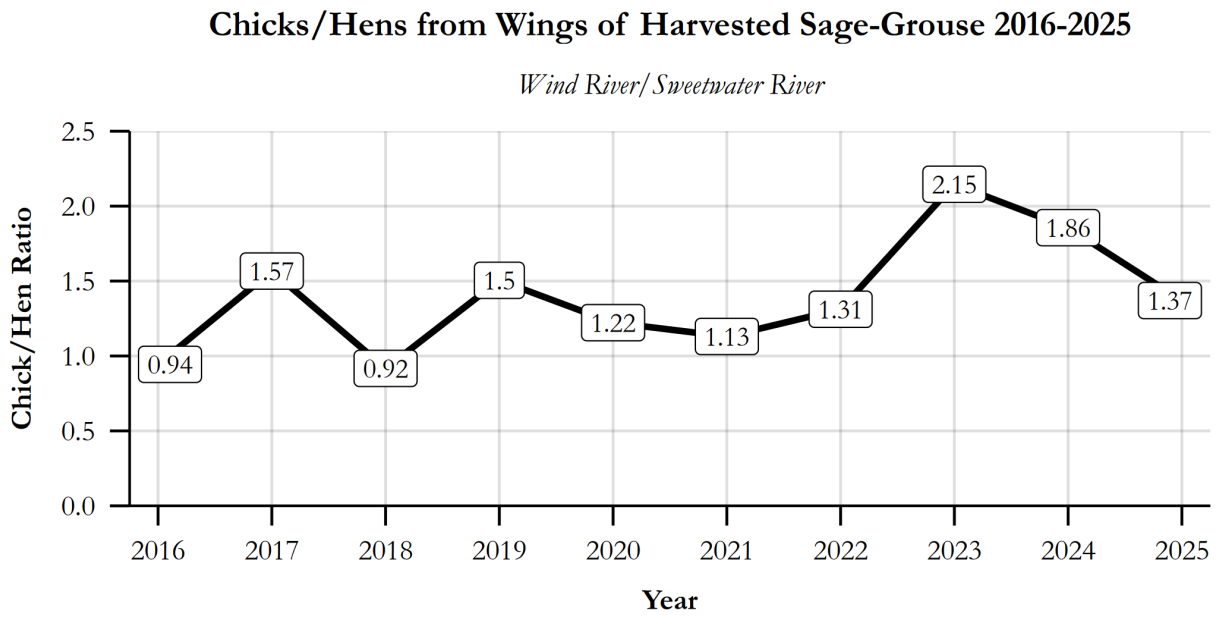


Figure 6: Chick/Hen Ratio

Lek Monitoring:

Sage-grouse are generally found throughout the Wind River-Sweetwater River Conservation Area (WRSRCA), except in heavily forested, agriculturally developed, or urbanized areas. Sage-grouse leks in the WRSRCA are located within the Lander WGFD Region, four BLM Resource Areas, five Wyoming counties, and the Wind River Reservation (WRR). In 2025, there were 211 occupied leks within the conservation area, along with 48 unoccupied and 18 undetermined leks (**Table 1**). The majority of leks of all 3 classification levels occur within the three core areas that are partially or entirely within the WRSRCA (Crowheart, Greater South Pass, and Washakie). It is highly likely there are leks within the WRSRCA that have not yet been documented, as evidenced by at least 151 (average 5 per year) new or newly discovered leks being documented in the WRSRCA through intensive monitoring and search efforts since 1995. Two new leks were discovered in 2025. Similarly, there likely are leks that have been abandoned or destroyed that are undocumented. Lek attendance at all leks checked has fluctuated with cyclical patterns since 1995, with peaks occurring every 6-10 years. Following the most recent low attendance mark in 2021, the WRSRCA had increases in average males per active lek of 24% in 2022, 26% in 2023, 27.3% in 2024, and 9.7% in 2025 (**Table 4**). These lek attendance data mimic Wyoming's statewide trends, but with generally higher numbers than the Wyoming averages.

Personnel from WGFD, NRCS, USFWS, and Shoshone-Arapahoe Tribal Fish and Game (SATFG), assisted by consultants and volunteers, checked 194 (90%) of the 215 known occupied leks in the WRSRCA in 2025 (**Table 4**). The percentage of leks checked was similar in past years, but the percentage of leks "counted" decreased slightly in 2025, with lower observer participation. Of the 194 leks checked, 108 were counted and 86 were surveyed (**Table 2** and **Table 3**). Of the 169 leks where status was confirmed in 2025, 148 (87.5%) were active and 21 (12.4%) were inactive (**Table 5**). Average male attendance for all leks checked improved from 37.3 males per active lek checked in 2024

to 40.9 in 2025. Average maximum male attendance at count leks also increased from 39.9 males per active lek in 2024 to 47.0 in 2025, above the count lek average since 2016 (36.6), but 38.2% below the long-term peak observed in 2006 (76.0).

A subset of 17 leks in the Government Draw area east of Lander which have been counted since 1995 also had a lek attendance increase in 2025, with an 11% increase in male attendance from 65.2 males per active lek in 2024 to 72.3 males per active lek in 2025. This area has outperformed the attendance averages for the entire WRSRCA over the last few years, with the average males at all leks checked in this subset in 2025 being the best since 2015 and forth best since 1995. New leks found within the Government Draw area since 1995 are not included in this analysis.

Production:

Summer brood data are very limited in the WRSRCA, so data collected from wings of harvested sage-grouse provide a more reliable indicator of recruitment than do brood survey data. Wings are collected from hunters at eight wing barrels placed annually at exit roads from major hunting destinations in Sage-Grouse Management Area E and at the Lander Game Check Station. These wings typically provide significant data, due to a relatively high number of sage-grouse hunters in the area. Wing data are summarized for the WRSRCA for hunting seasons 2016 – 2025 (**Table 8** and **Figure 8**). Wings collected from harvested birds yielded an average brood size of 1.4 chicks per hen in 2025, equaling the average of 1.4 chicks per hen observed over the last 10 years. Population growth typically requires 1.7 chicks/hen or more based on historic statewide averages. With average chick survival in 2025 being below that threshold, male lek attendance in the WRSRCA is expected to decline slightly in 2026.

Harvest:

Sage-grouse hunting season in Management Area E lies entirely within Wyoming Hunt Area 1, which has been "standardized" since 2009, with opening day on the third Saturday in September and ending on September 30. The 2025 sage-grouse hunting season was 11 days in length (Sept. 20 – 30). A free permit was again required to hunt sage-grouse in 2025 (in addition to applicable upland bird hunting licenses), with high compliance reported from field personnel. A primary function of this permit is to enhance harvest survey reporting, and with 43% harvest survey response rate from permit holders, harvest information for 2025 was much improved over response rates before the permit requirement began in 2024. The 2025 sage-grouse permit harvest survey indicated a total of 1,412 sage-grouse were harvested in Management Area E, by 789 hunters who spent 1,627 days hunting sage-grouse. With improved harvest survey responses in the last two years, hunter numbers, hunter days, along with effort (days/hunter) and success (birds/hunter and birds/day) statistics seemed within reason compared with the previous seasons (**Table 7**). Harvest survey data also seem reasonable compared with recent lek attendance and productivity as shown by chick/hen ratios and wing barrel sample sizes.

Sage-grouse hunting on tribal lands within the Wind River Reservation is minimal and no data are included in this report.

Habitat:

Long-term sage-grouse habitat conditions have been affected by long-term drought throughout the WRSRCA. Disturbance (i.e., localized energy development, season-long grazing by livestock and wildlife, etc.) combined with lengthy drought periods and sagebrush eradication programs in many

areas have negatively impacted sage-grouse and their habitats. In an effort to improve conditions for sage-grouse, habitat improvement projects are being planned and/or implemented throughout the WRSRCA to address declining sage-grouse habitat condition. In addition, research projects in the WRSRCA are continuing to provide more insight to sage-grouse movements and habitat use. Habitat conditions vary greatly within the WRSRCA, due to climatic differences, soil types, land use, and elevation.

Habitat Monitoring/Inventory

Habitat monitoring is discussed in past WRSRCA JCRs, and in the 2007 WRSRCA Local Sage-Grouse Conservation Plan and 2014 Addendum. No habitat monitoring transects were measured in 2025 specifically for sage-grouse. However, implementation of Rapid Habitat Assessments (RHAs) continued as part of the South Wind River and Sweetwater Mule Deer Initiatives, to develop a baseline from which to gauge overall habitat condition. Several RHAs covering shrub/rangeland habitats were completed within the WRSRCA in 2025, and offer insight as to the condition of sage-grouse habitats within the South Wind River and Sweetwater Mule Deer herd units that overlap a portion of the WRSRCA.

Winter Habitat Use Survey

Limited winter sage-grouse observations were collected in 2024-2025, mostly as opportunistic observations during deer, elk, and moose classification flights or random ground surveys.

Habitat Treatments

Since adoption of the WRSR LWG plan in 2007, several vegetation treatments have been implemented with the intention of improving habitats for sage-grouse, mule deer, and other wildlife. Summaries of these treatments are reported in past JCRs and in the 2007 WRSRCA Local Sage-Grouse Conservation Plan and 2014 Addendum. No new treatments in sage-grouse habitats occurred during 2025.

Conservation Easements

Within the WRSRCA, several privately owned properties have been placed under conservation easements with deed restrictions ranging from minimal to no new construction of houses, barns, or other buildings. Conservation easements are mostly located in the Lander Foothills, Sweetwater River, Twin Creek, Dubois, and Ervay Basin areas. At present, over 32,000 acres of private lands are permanently protected by conservation easements within the WRSRCA, and provide protection of crucial wildlife habitat, water quality, maintain migration routes, and continue traditional agricultural land uses.

Disease:

No new cases of West Nile Virus (WNv) or other avian diseases are known to have occurred in sage-grouse in the WRSRCA in 2025.

Conservation Planning:

In 2025, the Wind River/Sweetwater River local working group (WRSR LWG) funded projects to enhance sage-grouse habitats and reduce risk of collisions with fences. These projects are covered by Recommended Actions in the Wind River/Sweetwater River Local Sage-Grouse Conservation Plan and Addendum (2007, 2014).

A new steel rail fence is planned for approximately 30 acres surrounding Diamond Springs. These springs are important for sage-grouse mostly during late summer brood rearing. Removing livestock and feral horse use from this spring will allow grass and forb communities to flourish which will provide cover and forage for sage-grouse and other wildlife.

A project is planned to convert about 35 miles of allotment boundary and interior pasture fencing from woven wire or poorly designed barbed wire fences to wildlife-friendly fencing near the Sweetwater River and Oregon Buttes Road on South Pass. The WRSR LWG awarded funds to this project to purchase fence markers to help sage-grouse see and reduce collision risks with the new fencing.

Fremont County Weed & Pest - The Government Draw Leafy Spurge and Cheatgrass Management project is a continuation of the aerial treatment efforts which began in the fall of 2017 within Zone 2 & 3 of the greater Lander-South Hudson Invasive Weed Control and Management program area. In addition, Weed & Pest conducts annual herbicide applications to curtail the spread of noxious weeds, including cheatgrass in many other parts of the WRSRCA. This project is ongoing, but did not receive funds from the WRSR LWG in 2025.

Management Recommendations:

1. Continue intensive lek counts in the Government Draw area south of Hudson.

2. Continue ground checks of all non-intensively monitored leks.

3. Continue to search for new or undiscovered leks in remote areas of WRSRCA.

4. Continue to collect age and sex composition of the harvest via wing collection and analyses.

5. Continue to cooperate with private landowners and Federal/State land managers to reduce negative impacts to crucial sage-grouse habitats.

6. Continue to coordinate research projects within or applicable to the WRSRCA.

Attachment A:							
Project #	Project Name	Fiscal Year	Local Working Group	Total Cost of Project	Sage-grouse Funds	Project Description	Partners
347	Thunder Basin Zeedyks	2025	Northeast	$222,000	$39,800	Additional funding to complete zeedyk projects associated with the FY23 Thunder Basin habitat efforts due to costs being higher than originally estimated.	NFWF, WGBGLC, WWNRT, Thunder Basin Grazing Assoc., LWG, In kind
348	S. Central Habitat	2025	Bates Hole	$4,151,500	$60,000	Habitat improvements include juniper removal, mountain big sagebrush mowing, riparian restoration, mesic habitat improvements, cheatgrass treatments, and fence modifications.	WWNRT, Roky Mountain Power, WGFD Trust Fund, WGBGLC, Mule Deer Inititive, LWG, BLM, WGFD, Natrona Landowner
349	Sage Creek Riparian Restoration	2025	Bighorn	$213,000	$55,000	Beaver dam analogues will be installed and woody riparian plants will be planted to restore riparian habitat functions on Sage Creek.	WWNRT, WGFD Mule Deer Initiative, Governors Big Game License Coalition, WGFD, BLM, Volunteers
350	Community Naturalists Hands-on in the Sagebrush	2025	Bates Hole	$40,000	$15,000	Expand local efforts to engage students with hands on experience in the sagebrush ecosystem.	Wyoming Community Foundation, Private Funders
351	Spring Creek Grazing Association Rangelands Restoration II	2025	Northeast	$970,575	$25,000	Improve grazing management, rangeland health, wildlife habitat, and wildlife habitat connectivity.	WGFD, Spring Creek Grazing Assoc., WWNRT, PreCorp, NFWF-Northern Great Plains Inititive
352	Adaptive Management of the Normally Pressured Lance Natural Gas Development Project for Greater Sage-Grouse	2025	Southwest, South Central, Upper Green	$830,777	$48,000	Our project is a continuation of research to monitor sage-grouse as influenced by the NPL Gas Field in Sublette County, Wyoming.	WGFD, BLM, Jonah Energy, UW
353	Paint Creek Ranch Conservation Easement - JHLT	2025	Bighorn	$3,542,800	$20,000	Paint Creek Ranch Conservation Easement Project will permanently protect 958 acres containing 2.3 miles of Paint Creek from being subdivided or developed, thus preserving critical wildlife habitat, including that of sage-grouse	WWNRT, NRCS, WGBGLC, Private Funds
354	Factors Contributing to Sage-Grouse Persistence in a Non-Sagebrush Area	2025	Northeast	$17,000	$17,000	Study why male sage-grouse numbers in NE WY have remained high despite little to no sagebrush, being surrounded by development, and being in a hayfield.	
355	Sage-grouse dietary composition study	2025	Upper Green, Southwest	$57,500	$13,500	Test the dietary composition of sage-grouse on reclaimed well pads in the Anticline natural gas field compared to adjacent reclamation sites and sites in the sagebrush system outside the gas field.	Pure West Energy, WWNRT, Abnova
356	Virtual Fence IY 2025	2025	Upper Green, Southwest	$307,500	$65,000	Funding of materials for virtual fence implementation.	SCCD, USFWS, JIO, WLCI, BLM

357	Jornado Ditch/Fish Creek Restoration	2025	Wind River	$15,000	$9,500	Structural treatment of Jornado ditch to allow for earlier irrigation to improve frequency and intensity of perennial plant species.	The Radosevich Family, NL Land & Livestock
358	Davies Ditch Rehabilitation	2025	Wind River	$82,500	$42,500	Install 1800 linear feet of 15” PIP buried pipe in the Davies Ditch	North Fork Land & Cattle
359	Wind River Reservation Wet Meadow Restoration	2025	Wind River	$60,000	$10,000	The project is addressing stabilization of meadow headcuts within the Little Sand Draw, Sage Creek and Norkok Meadows utilizing zeedyk structures on the Wind River Indian Reservation.	BIA, Ancestral Land Corp, PFW Wyoming, USFWS
360	Big Creek Pipeline	2025	South Central	$239,200	$35,000	Installing over 5 miles of pipe and 8 tire tanks to supply multiple pastures throughout the Prospect Mountain Allotment	Big Creek Ranch, SERCD, Wyoming WAter Development Commission, Rocky Mountain Power Mitigation, WWNRT
361	Greater Sage-Grouse and Fence Collisions	2025	Upper Green	$15,000	$15,000	grouse-fence collisions on BLM-administered land in the BLM – Pinedale Field Office. Total cost for phase 1, other funding coming for phase 2 and 3.	Sutton Avian Research Institute, BLM
362	House Draw Fire Aerial Seeding	2025	Southwest, Wind River, South Central	$237,820	$58,500	Aerially seed sagebrush late this fall or early winter with a well timed moisture event in teh House Draw Fire Perimeter.	Johnson County Habitat Restoration Team, University of Wyoming Sheridan Extension and Research Center, WGFD, BLM, VArious Land Owners
363	Southwest Wyoming Local Sage-Grouse Project Monitoring and Maintenance Phase 3	2025	Southwest	$23,000	$3,000	Survey and develop projects for fence marking, spring protections, and wet meadow restoration	WGFD, Landowners, WWF, USFWS
364	Invasive Species Inventory & Treatment: Pack Trail Fire/Gros Ventre Watershed	2025	Upper Snake	$65,000	$23,000	Inventory, map, and treat invasives discovered in the Pack Trail Frie perimeter that burned within sage-grouse core area	Bridger Teton National Forest, Jackson Hole Weed Management Association
365	Upper Sweetwater Fence Conversion Project	2026	Southwest, Wind River	$440,000	$25,000	Remove or convert fence to wildlife friendly fence, install markers for sage-grouse	WWNRT, WGBGLC, Knobloch Fanmily Foundation, WGFD, RMEF, Muley Fanatics, WGFD Trust
366	Diamond Spring Protection Fence 2	2026	Wind River	$205,000	$20,000	Fence around spring to exclude feral horses and livestock to allow grass and forbs to flourish for benefit of sage-grouse and other wildlife	Water for Wildlife Foundation, Split Rock Ranch, WGFD
367	Red-Rim Daley Wet Meadow Restoration	2026	South Central	$243,609	$8,500	Hire consultant to plan wet meadow restoration including structure location and type, full ground assessment, and predicted outcomes then implement project	

368	E. Fork Bates Creek Mesic Habitat Improvement	2026	Bates Hole	$355,000	$40,000	Construction of 181 zeedyk structures in Upper Bates Hole to restore and improve mesic habitat in the Natrona Sage-Grouse Core Area.	OSLI, WGFD, Private Landowners
369	Revisiting the Atlantic Rim Project Area	2026	Southwest, South Central	$26,787	$15,500	Evaluating the long-term response of greater sage-grouse to energy development and implications for reclamation.	Kirol Applied Ecological Research, UW
370	Assessing Bighorn Basin sage-grouse movement and seasonal habitat connectivity	2026	Bighorn	$228,000	$28,000	Identify factors inhibiting or promoting movement and demographics among and within seasonal habitats.	BLM, WGFD, Oregon State University
371	Jungle Well Development	2026	South Central	$23,000	$12,500	Converting an old water well to solar	Rawlins District Grazing Board, Blake Sheep Company
372	Free-Roaming Horse Micro-Habitat Impacts to Sage-Grouse Nest and Brood Survival	2026	Bighorn, South Central, Southwest	$648,848	$31,500	How alterations by free-roaming horses to microhabitat characteristics influence nest and brood survival of greater sage-grouse in Sweetwater County, Wyoming.	BLM, WGFD, Various Private Landowners, UW
373	Monitoring Sage-grouse and Other Wildlife's Response to Fire Restoration Efforts in Northeastern Wyoming	2026	Northeast	$21,700	$16,700	Monitor sage-grouse and ungulate response to fire restoration efforts (invasive grass treatment, sagebrush seeding, sage-grouse food forb seeding) in the House Draw fire areas.	Audubon, Clear Creek Conservation District, WGFD, BLM, Phesants Forever, DEQ-AML, Various Private Landowners, BLM, Kirol Applied Ecological Research
374	Southwest Wyoming Local Sage-Grouse Project Monitoring and Maintenance Phase 3	2026	Southwest	$28,000	$5,000	Survey and develop projects for fence marking, spring protections, and wet meadow restoration	WGFD, Landowners, WWF, USFWS
375	Mesic Habitat Restoration Structures	2026	Upper Green	$2,150,532	$10,000	Purchase of materials to implement mesic habitat restoration for sage-grouse brood-rearing habitat.	Sublette County Conservation District, BLM, WGFD, NRCS, USFS, Wyoming Wildlife Consultants
376	Cheatgrass Treatment	2026	Upper Green	$60,000	$30,000	Cheatgrass management in Sublette County	BLM, Sublette County Weed and Pest, WGFD
377	Advancing Proactive Cheatgrass Management in the Upper Snake	2026	Upper Snake	$16,423	$15,000	Develop spatial model of the leading edge of the cheatgrass invasion in the Upper Snake River Basin	TNC, USFS, Teton County Weed and Pest, National Elk Refuge